The Builder.

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The Beginnings of Hebrew Architecture.

BIBLICAL archæology, even in its architectural aspect, is a study which does not concern any large circle of readers, and it is perhaps hardly likely that a book on the Hebrew Tabernacle will meet with the attention that the subject really deserves. To the ordinary reader of Scripture it is quite enough to know as much about the portable temple of the Jews as can be gathered from the statements of the Book of Exodus, without any systematic attempt either to verify the measurements there given or to reconstruct in drawing or model the tent of worship. The architect, on the other hand, seeing in the Tabernacle no building but a mere curtained enclosure—a thing of ropes, sheets, and poles—hardly reckons to bring it within his ken. But in this attitude both parties are probably mistaken; for whether we are concerned with the Jewish religion as a historic process which intimately affects our modern civilisation, or whether we are interested in the very difficult inquiry that deals with the architecture of the Herodian epoch, the Tabernacle (which is the cradle of the one, and in a sense the nucleus of the other) cannot fail to have its importance for us.

Mr. Caldecott's book * deals with three subjects which are intimately connected with one another. He deals *imprimis*, though not in the first part of his book, with the reconstruction of the Tabernacle itself, and in so doing provides a result which is conspicuously at variance both with what he calls the Conventional Tabernacle and that with which we are familiar in the late James Fergusson's "Temples of the Jews." His other subjects are the size of the cubit and the nature of the remarkable ruin at Râmet-el-Khalil, which has been for many a year a puzzle to archæologists. To deal first and briefly with the outward aspect of the author's reconstructed Tabernacle, we may observe that he agrees with Fergusson in assuming that the cloth and skins of which the roof of the shrine was formed were stretched, not as the older commentators thought *horizontally* from wall to wall (a method which anyone who cared to make practical experiments with a sailcloth would find to be impossible), but dependent obliquely from a ridge pole. Oddly enough, however, Mr. Caldecott, though he admits this arrangement as the system of construction for the main body of the Tabernacle, assumes that the porch was covered on the other system—that is, with the canvas or curtain spread horizontally across the roof poles without any ridge or apex. The appearance of this square-topped canopy—contrasting with the angular form of the main-tent roof—is, we consider, enough to condemn it as inadmissible. Authorities, as it happens, differ on the question whether there was a projecting porch in front of the Tabernacle proper. Neither the Book of Exodus nor the Antiquities of Josephus are quite clear on the point, and it will be remembered that Fergusson adopted the view that the columns described as forming the porch were to be arranged not as a projecting portico, but merely as a sort of colonnade along the line of the entrance. Be this as it may, there is at least one sentence in Josephus which surely disposes of the idea that the arrangement of curtains at the entrance could have taken any other form than that of a gable end; the result of a ridge and two slopes. "The coverings," says Josephus (one may improve a little on Whiston's translation), "afforded at the doorway the appearance of a pediment (*ἀέτωμα*) and a façade (*παστάς*)." It is difficult to understand how Mr. Caldecott can ignore this passage.

Just as in the attempts to reconstruct Herod's Temple we have to rely on two written evidences—that of Josephus and that of the Talmud; so in any attempt to work out the Tabernacle we are forced to take Josephus and the book of Exodus together, allowing the one to supplement the gaps of the other. We know, for example, from Exodus that the walls of the Tabernacle were formed of vertical boards closely fitted together. Josephus, though he gives the dimensions of these boards—dimensions which fit very well with the Mosaic figures—obscures his lucidity by calling them columns; using, in fact, the same word as that by which he describes the columns of the porch and the columns of the outward enclosure.

* "The Tabernacle: Its History and Structure." By the Rev. W. Shaw Caldecott. The Religious Tract Society. 1904.

Probably no historian has ever described buildings with such apparent accuracy of dimensions as has been liberally used by Josephus in his records of the Tabernacle and the temples of the Jews. Yet anyone who has a mind to reconstruct from written description the simplest of these—the Tabernacle—will soon discover that he has before him a task that offers more than one inexplicable difficulty.

It is time, however, to put on record Mr. Caldecott's dealings with the cubit. The consensus of modern archæological opinion has recently agreed (with some few dissentients) on 18 in. as the probable size of the ordinary builder's cubit in use by the Jews. It has, of course, long been known that more than one cubit was recognised. Fergusson acknowledged this in 1878, and gave their respective dimensions as 15 in. (a cubit used for metal work and vessels), 18 in. for the builder's cubit, and 21 in. for the Babylonian cubit, which, according to some authorities, was brought back by the Jews after capitivity and used in the building of the second Temple.

But Mr. Caldecott is, we believe, the originator of the cubit theory which his book sets forth. He takes his results from the Senkereh tablet, and from the incised block known as the Slab of Gudea. It is impossible here to transcribe Mr. Caldecott's process of proof. Indeed, very few of his readers will possess the necessary knowledge to check his reasoning, and it is fair to remark that Professor Sayce, who gives his general approval to the book in a special preface, withholds his blessing from the "mathematical calculations," which, he says, "must be left to the professed mathematician." But the result of the writer's research is the establishment once more of a variety of cubits which, though still three in number, are not the same that we knew thirty years ago. Mr. Caldecott's three are respectively $\frac{20}{10}$, $\frac{12}{10}$, and $\frac{15}{10}$ of the English foot. He confines the smallest, as did earlier writers, to small objects and gold tapestry work. The second he attributes to buildings, and the third to the measurement of areas only.

The immediate consequence of this assumption, that in any given building with enclosed spaces about it two cubits at least would be employed, is at once apparent. The spaces in all our restorations will be increased in relation to the blocks of building. This theory of a double system of mensuration (we do not say triple, because the smallest cubit does not affect the question of architectural restoration), interesting as it is in connexion with the Tabernacle, assumes far greater importance when considered in relation to the temples of Solomon and of Herod. Mr. Caldecott promises, in a footnote, to produce a restoration of these buildings on his new basis of measurement; and, in view of this prospect—the application of the new dual system to these buildings, over which the energies of restorers have so long been in conflict—our interest in his contributions to Biblical archæology becomes chiefly anticipatory.

One foresees, of course, many difficulties, some advantages, and some confusions. Anyone who has attempted, for example, to harmonise the authoritative figures of Josephus with the equally authoritative figures of the Book Middoth, and who has struggled to make the result of his compromise between these two fit the measurements of the Haram area, realises not only that it will be very convenient to take refuge, when the figures are too stubborn, in a change of cubit, but also that there are many parts of the Temple building, or even of the Tabernacle, of which it is almost impossible to determine whether they come under the category of areas or buildings. We gather, for instance, that in Mr. Caldecott's opinion the altar of the Tabernacle enclosure comes under "middle" cubit measurements, but that the "projecting portion of altar base" is measured by the large cubit. The surrounding fence of the Tabernacle enclosure was made of post and curtains. How were they measured? By the small cubit as curtains, or by the middle cubit as structure? Mr. Caldecott is obliged, in face of the statements of Exodus xxvi., to admit that they were measured by the large cubit identical with that which he assures us is reserved for the measurement of areas. This consideration of the constant difficulties in which the Jewish workmen must have been involved by the use of two simultaneous standards, the remarkable fact just mentioned that the boundary fence of the Tabernacle has to be measured as area, not as fabric or structure, and the absence in Josephus's intricate dimensions of the Temple buildings of any suggestion of a double meaning for the work πῆχυς, are perhaps our strongest reasons for wishing to await further proof.

That needlework and jewellery should be measured by a cubit of a size differing from the cubit of the architect is no more surprising than the existence, side by side, of our two pounds—troy and avoirdupois; but that a mason should measure a courtyard with a rule 25 per cent. in excess of that which he applies to the buildings therein contained is inacceptable of belief until clearly proved.

The credentials which Mr. Caldecott offers for his view are two-fold. He relies, perhaps, chiefly on his forthcoming work dealing with Herod's Temple. At present he claims to have brought "into view from the uncertainties of speculation the first concrete result of a well-ascertained fact of metrological lore. The importance of this deliverance from the 'might-have-been' will," he says, "grow upon us as we proceed, and it will culminate in the demonstration of its correctness when we come to deal with the area on which stood the Temple of Herod." Till then the author bids us hold judgment in suspense.

But in his preface he explains that he went out to the Holy Land to seek in the Râmet enclosure a confirmation of the "newly-discovered Hebrew cubit," and we gather that the author considers his application of theory to fact as eminently satisfactory. The thickness of the walls, he tells us, is three building (*i.e.*, middle) cubits, and the area is in terms of the large, or surveyor's, cubit. The People's Court in this area proved to be a square of 150 ft., which means that it was 100 cubits (large size) each way, a dimension which is just twice that of the Tabernacle Court, and may thus serve as a strong justification of the 18-in. cubit, which is not in dispute. But does the thickness of the walls confirm the smaller cubit? "They are given," says Mr. Caldecott (he does not appear to have measured them himself), "as 40 in. This was three building cubits of $1\frac{1}{3}$ ft." But it was not. Three building cubits of $1\frac{1}{3}$ make 43·2, not 40 inches.

It should be noted that the connexion of this enclosure at Er-Râmeh (or Râmet-el-Khulil) is only indirect with the Tabernacle. It is concluded that the spot may be identified with the Ramah of Samuel, but this, though a place of great sanctity, was not a tabernacle site. After the settlement of the Children of Israel in Canaan, and before the building of Solomon's Temple, there were, as we know, several *quasi*-permanent sites for the Tabernacle (the history of these sites, a rather complicated one, is set forth by Mr. Caldecott), but Ramah, the Sanctuary in which Samuel anointed Saul, was merely a "High place"—a fenced area containing an altar. None the less should its dimensions possess a cardinal value in the eyes of temple students. A place of national sacrifice, and connected with the personality of Samuel, it is, in its way, likely no less than the Tabernacle to have influenced the permanent structures of later years; and whatever rules of sacred proportions applied to the one might, as appears to have been the case, have applied to the other.

Finally, to return once more to the variant cubit, which is really the theme of this volume, it must be admitted that Biblical evidence for a double standard of cubits is apparently to be found in those chapters of Ezekiel which contain, in a vision, the measurements of the reconstruction of the Temple. In this passage some of the parts of the building are seen to be measured with a reed "of six cubits long by the cubit and a hand breadth"—elsewhere described as a "full reed of six great cubits"—while others are simply described as being of so many cubits. But it is to be observed that in the first place these measurements with the reed are not by any means confined to courts, area, and open spaces, and that, secondly, there is absolutely nothing in the text of Ezekiel to prove that the prophet is not using the large cubit as his standard throughout. He employs no such expression as "small" cubit. Probably, therefore, the emphasis with which at the opening of his description he announces that the measuring rod was of six great cubits is simply intended as a statement that the greater standard is employed throughout. That the prophet specially mentions the use of the entire reed in the figuring of the longer dimensions of outer walls and the like is only natural. He has recourse to his greater but still commensurate unit—just as we should employ yards instead of feet. But Mr. Caldecott concludes that the mention of the reed implies a change of standard.

We are content to await for the author's forthcoming work for the final demonstration of a theory which at present does not seem to throw too clear a light upon the dark places of Israelite architecture.

NOTES.

The Proposed Shakspeare Memorial.

THE discussions in the papers on the proposed Shakspeare memorial for London form an amusing example of that dread and distrust of everything in the shape of art which characterises the English public and average English journalism. No sooner is such a memorial proposed than the cry arises on all sides—"Let us have something useful; a library, a theatre: anything rather than a work of art": and writers in *Punch* and other publications indulge in sneers at our public statues of twenty, thirty, or fifty years ago, as examples of the horrors to be avoided. These people either have no perception in art, or they go about with their eyes shut; otherwise they would know that English sculpture now is a very different thing from what it was fifty, or even twenty years ago. A memorial to Shakspeare in London (with the idea of which we are entirely in sympathy) ought to be an occasion for combining the best architectural and sculptural art of the country in a grand monument, which should be to London what the Scott monument is to Edinburgh; for that monument, in spite of what we now see to be bad detail, is as a whole a great conception, of which Edinburgh may well be proud; and it is perfectly possible to do something of the kind, but a great deal finer, in London, if people would only think so, and not allow literary men and journalists, who do not know what they are talking about, to sneer away a great and splendid opportunity.

A Garden Suburb.

A GARDEN suburb at Hampstead is a project worth striving for; but even if the project be successfully carried out, we fear it can have no material effect on the development of towns generally. An appeal has been made for funds to create a public company for the above purpose, which is to be partly of a business nature and partly philanthropic—a fair interest is to be paid on the capital. But this would scarcely satisfy the ordinary investor up and down England, and it is difficult also to be sure that when the shares of such a company change hands a continuity of ideals will exist. The truth is that public control can generally, and in the long run, be the very force to make suburbs healthy and pleasant. We wish the present project a successful career, but it is certain that, from a practical point of view, it can be a merely isolated and agreeable example to public authorities.

The Metric System.

THERE can be no doubt that the metric system is almost as convenient as are logarithms to busy men who desire to perform calculations with a minimum expenditure of time. So far as its theoretical advantages are concerned, arguments in favour of the system are really superfluous. The only valid objection to its use, in connexion with weights, measures, and money, is to be found in the temporary inconvenience and cost that would be unavoidably caused during the transitional stage of changing from the anomalous but well-known units prevailing in this country to the co-related series of units, but less familiar, almost universally employed on the Continent and largely used in other parts of the world. The Decimal Association has now issued a reply by Mr. J. H. van Biene to the arguments brought against the metric system by the late Mr. Herbert Spencer, in the pamphlet to which reference was made in our "Note" of last April.* As we doubted the utility of Mr. Spencer's pamphlet, so we doubt the utility of the present publication. It is purely controversial, and does not strike us as one likely to popularise the tenets of the Association in question. The subject is eminently one for practical proposals rather than for academic discussions, and advocates of the metric system would do well to devote their attention chiefly to consideration of the means best calculated to make the suggested change easy to those who will have to pay the cost of new appliances for measuring and weighing the goods they manufacture and sell.

Our Navigable Waterways.

IN a paper read before the Society of Engineers on Monday, and briefly reported in another column, Mr. B. H. Thwaite discussed "The Transport Possibilities of our Inland Navigable Waterways." This communication possesses two distinctive merits. It is short and practical. The advantages of a canal system are succinctly set forth, and the author shows not only that canals can be constructed at less than one-thirteenth the cost of railways, but that the cost of canal transport per ton-mile is one-tenth of the average cost on British railways: In the case of electrically-operated canals the cost of traction is little more than one-twentieth of the railway average. To purchase, standardise, and electrify the entire British canal system means an outlay of nearly 20 millions sterling, and while we agree with Mr. Thwaite that, if undertaken by the State, the result would be a splendid national asset, we have no hope that the Government will ever be persuaded to consider any such scheme. The constitution of trusts in different parts of the country—such as the trust proposed by the Worcester Chamber of Commerce—is the most practicable means of regenerating and further increasing the usefulness of our inland navigable waterways.

The Public and the Roads.

THE question of the rights of the public to the roads was again before the Courts in the case of Tilling *v.* Dick Kerr & Co., Ltd., in which the defendants were a firm of contractors who were employed by the London County Council to carry out the electrification of a portion of the South London Tramways, under the provisions of the Tramways and other Acts. The plaintiffs were suing for damages they had sustained in carrying on their omnibus traffic in consequence of the defendants having used rails the upper surface of which were not level with the road, in contravention of the Acts of Parliament. Section 6 of the London County Tramway (Electrical Power) Act, 1900, provides that the London County Council, for the purpose of working the tramways by electrical power, "may reconstruct or make such alterations of the tramways and may execute all such works on or in connexion therewith in, over, or under the streets or roads in which the same are laid as may be necessary for adapting the same to be so worked." The defendants contended they were protected by this section and also by the Public Authorities Protection Act, 1893, because the action was brought more than six months after the right of action accrued. The raised rails were used in connexion with a "turnout," or siding, which was constructed alongside the existing rails to enable the tramway traffic to be carried on during the process of reconstruction. The learned judge found as a fact that there was no negligence on the part of the defendants, but that the raised rails were an obstruction to the highway which caused damage to the plaintiffs, and this obstruction was not authorised by the Acts of Parliament, since, if necessary at all, it was adopted not to enable the reconstruction to be carried out, but to enable the traffic to be continuously maintained. As regards the second ground of defence, the Public Authorities Protection Act, the Court, following the case of the Kent County Council *v.* Folkestone Corporation, recently commented upon by us, held that the independent contractor is not within the protection of the Act, since he is not "a person acting in the execution of statutory or other public duties." The case emphasised the necessity for some change being effected in the law as laid down by the Public Authorities Protection Act. The position is most anomalous if the corporations are only under its protection as long as they carry out the work themselves, and it directly encourages municipal trading. We have, moreover, constantly put forward the contention that such a protective statute should apply to corporations only in the exercise of their administrative functions, and that such protection should not be extended to them in their new capacity of traders.

Ventilation of the House of Commons.

THIS perennial subject is still receiving the attention of a Select Committee of the House of Commons. During the recess a new type of water screen and a more powerful intake fan have been installed, and steps have been taken to provide for the more complete isolation of the passages forming the main air-ducts. The larger exhaust fan recommended by the Select Committee will probably be running by the end of the present month. Experimental tests are then to be undertaken with the object of obtaining further information as to the distribution of air to the House, and as to the character of the air so distributed. The report recently presented by Dr. M. H. Gordon contains some useful but obvious suggestions for improving the quality of the air supply. It advocates, among other things, the enlargement of the air inlet and the abolition of traffic over it, the prohibition of traffic across the main air-duct while the House is sitting, and the regular use of wet mats in the heating chamber for the purpose of satisfying the increased capacity of the

* The *Builder*, Vol. lxxxvi., p. 357.

warmed air for moisture. One of the most important points is that the main duct should be made perfectly air-tight. At present three doors exist between the ventilating fan and the inlet, and unless these are blocked up or securely sealed the object of the most perfect air purification appliances will always be liable to be defeated. Though the House is not really so badly ventilated as some members of it pretend, it is extraordinary that its complete and efficient ventilation should still remain a kind of unsolved problem. The practice in the past has been to rely too much upon the assistance of medical men, and while fully recognising the value of their services, we feel convinced that the ventilation of the House can only be satisfactorily accomplished by placing the whole matter in the hands of a thoroughly competent heating and ventilating expert.

Wireless Telegraphy.

MR. MARCONI gave an interesting lecture last week at the Royal Institution on "Recent Advances in Wireless Telegraphy." Although nothing very novel was described, yet from many incidental remarks it was obvious that the workers in the field of wireless telegraphy have made substantial progress during the last year. He explained how by timing receivers to respond only to signals of a particular frequency, it was now possible to receive several messages simultaneously at a wireless station. There is practically no interference in the ether between waves of different wave length. The magnetic detector has been brought to a high pitch of perfection. In the earlier form of apparatus which Mr. Marconi devised, the current impulse was so rapid that it failed to actuate the tongue of a relay, although it produced a sharp click in the telephone. In the present type of detector, mainly by choosing suitable iron and modifying the arrangement of the circuits, the impulse was made less rapid, and so, by actuating a relay, the message could be printed by a Morse recorder. High speed could be attained by this instrument. Between Amsterdam and Chelmsford the average speed was now twenty-four words per minute. The lecturer referred to the breakdown of the apparatus used to transmit wireless messages to the *Times* from America in the spring of 1903. New stations for this purpose were now in course of erection. Reference was made to the long distance news service between the shore and some of the Cunard liners. It was stated that messages were much more easily sent over long distances at night time or in cloudy weather. Mr. Marconi is confident that communication between England and her colonies can be made more economically by wireless telegraphy than by submarine cables.

The Telephone Settlement.

ACCORDING to the agreement made between the Postmaster-General and the National Telephone Company, the whole of the plant of the latter company will be acquired by the Post-Office in 1911. The terms of the agreement are practically the same as when the London plant of the company was taken over in 1901, and are thoroughly satisfactory. We see no reason why it should not be ratified by Parliament. The company will be paid the market value of its plant in six years' time, and various clauses have been introduced to maintain the efficiency of the service during this interval. We note from an attached schedule which, however, does not apply to London, that the maximum annual charge for a full service is 10*l*. and the minimum 5*l*. To those municipalities who have, in accordance with the recommendation of the Act of 1899, established competing exchanges of their own, this agreement is of special importance. After 1911 the present competition will cease, and so the principal reason which induced them to take up telephony will be removed. It seems to us that it would be in the interest of these municipalities to hand over their exchanges as soon as possible to the Post-Office. The question of the depreciation of telephone plant is a difficult one, and it is probable, considering the low charges of municipal telephone service, that a sufficient amount has not been charged for this in the yearly accounts. The Post-Office will take over the service and pay the market value for the plant, and the longer this process is delayed the greater is the risk run by the municipalities of having to meet a substantial loss. In telephony, as in electric lighting, it is practically impossible to make allowance for the "antiquation factor," and the conversion recently of many telephone exchanges from the "magneto" to the "central battery" system proves that this factor has to be considered seriously.

Proposed Ocean Wharf near Greenhithe.

AN important step taken at the meeting of the Thames Conservancy Board on Monday, was the authorisation of a project, brought forward by Captain Wells, R.N. and others, for the construction of a deep-water wharf and transport sheds at Stone, near Greenhithe. It is proposed that the quay should be situated at a little distance from the shore so as to provide accommodation for barges on the inner side, and an important point is that the channel at the site chosen has a minimum depth of 30 ft. at low water. This will obviate the necessity for dredging and enable vessels of heavy draught to come alongside at all states of the tide. The quay, which will be built entirely of timber, is to be 6,600 ft. long by 58 ft. wide, and along the inner side ten transport sheds, each measuring 300 ft. long by 61 ft. wide, are to be placed at intervals so that barges may be loaded either from the sheds, or directly from vessels lying on the river side of the quay. It is stated that the traffic capacity of the new wharf will be six million tons. As the first movement in the direction of providing deep-water accommodation on the banks of the Thames this project is distinctly interesting, and one that will be serviceable in connexion with any of the schemes proposed for the general improvement of the Port of London.

New Testing Machine for Alternating Stress.

IN an article dealing with the last meeting of the British Association (Vol. LXXXVII., p. 248) we referred to the remarkable results obtained by Professor J. O. Arnold by subjecting steel to alternations of stress. Similar experiments were made years ago by Wöhler, and later by Sir Benjamin Baker, and Professor Osborne Reynolds. It is now generally recognised that much importance attaches to this branch of experimental engineering, and with the object of undertaking further research the Committee of the National Physical Laboratory have installed a new alternating stress testing machine. This appliance is designed so that tests may be conducted in accordance with the method of Professor Reynolds, which is to subject the specimen to stresses uniformly distributed throughout the cross-sectional area, instead of causing tension and compression by bending the specimen first one way and then the other. In the latter case the stress attains maximum value only in the extreme fibres, and diminishes to zero at the neutral axis. Hence, it is evident that the principle adopted as the basis of the new machine is the correct one. The apparatus possesses the further advantage that four different qualities of material can be tested under equal stress conditions, this facility being most valuable for purposes of comparison.

Failure of a Crane.

LAST week the Strand was once more the scene of an accident in connexion with hoisting machinery. On this occasion a large crane used for raising stone at the new Waldorf Theatre suddenly went wrong while a ton of material was on the point of being received at the top of the building. The stone fell into the roadway, but most providentially no one happened to be passing at the time. Every occurrence of this kind—and there are far too many of them—points to the moral that too much care cannot be exercised in the direction of examining and overhauling all lifting machinery at regular and frequent intervals. Such attention is especially necessary in the case of cranes used high above the heads of passengers in the streets of a city like London.

Old English Rood-Screens.

MR. E. F. STRANGE, of the National Art Library, South Kensington, delivered an interesting lecture on "Rood-Screens" before the Society of Designers on Tuesday night. The lecturer's remarks were very fully illustrated by limelight views and measured drawings. The subject was dealt with from the decorator's point of view and was concerned mostly with the painting and coloured decorations. Attention was drawn to the deplorable state of neglect, carelessness, and ignorance which these splendid relics of the XVth and XVIth centuries have passed through. The well-known examples from Southwold, Ranworth, Trunch, and Causton were very fully illustrated; they should be studied by all designers, for they show English colour decoration at its best. The lecturer mentioned many circumstances supporting his contention that these screens were coloured by English artists; he also showed very beautiful examples of roods from Devon and from Wales, showing carved decorations of a richness and of a character

to be found nowhere else in this or any other country. It is a pity that the attention of architectural and art students should not be directed towards the coloured decoration work that is still to be found in Norfolk and elsewhere; measured coloured drawings of all that is to be found, collected together in one place, would be of real value.

The Kent Education Committee.

THE business at a recent meeting of the Kent Education Committee included the consideration of a Report by their Works Sub-Committee, in regard to some proposed new schools, which seems to show that the Committee do not understand how to treat the architects whom they wish to employ. The Sub-Committee recommended that ll architects employed by the Committee should be under an agreement stipulating, among other things, that the commission payable should be 5 per cent. on contracts under 1,000*l*. and 4 per cent. on contracts of 1,000*l*. and over; this commission (below the usual standard) to cover not only all preliminary conferences and sketches, but the survey of the site or premises, arrangements in respect of party walls and rights of light, attendance (if required) at any local inquiry which might be held with reference to any loan for the said building or otherwise, and all travelling and out-of-pocket expenses. This is simply organised robbery; and we hope that architects who respect themselves will not enter into any such contract with the Committee.

Herne Hill Church Competition.

AN architect sends us a copy of the instructions on which the Committee for promoting a competition for a new Hall and Church at Herne Hill are inviting architects to compete. The scheme is a pretty large one, the church to cost 10,500*l*. without tower (which is, however, to be included in the design), and the Hall 3,000*l*., and the Committee are endeavouring to get six architects to enter into a limited competition for this, on the munificent offer of 15 guineas for the best design and 10 guineas for the second; the judgment to be formed by the Committee apparently, as no mention is made of an assessor. The further attractions of this competition are indicated in the following words:—

"The question of the building of the Church may have to be postponed for a somewhat indefinite time, pending financial and other arrangements. My Committee cannot undertake to accept any of the designs for, nor enter into any undertaking regarding the building of the Hall or the Church; and, as they are unable to bind their successors, they cannot guarantee that the architect who builds the Hall shall build either the Church or the Vicarage."

If the Committee expect any architects of position or ability to compete on those terms they will, we hope, be disappointed.

Whistler's Etchings and Lithographs.

MR. HARRY QUILTER, in a letter to the *Times* last Saturday, warns collectors and purchasers of Whistler's etchings and lithographs that prices for these are at present artificially "inflated" by dealers, and that "a rapid and considerable drop in the present over-value of Whistler's black-and-white work is absolutely certain." As we always maintained from the first, when no one else did, that the value set upon these works (the lithographs especially) was greatly exaggerated, it is gratifying to see symptoms of our prophecy coming true even sooner than we expected.

LETTER FROM PARIS.

ACCORDING to a scheme which dates from the Second Empire, the Palais de Justice when completed was to occupy the whole of the parallelogram comprised between the two arms of the Seine, the Boulevard du Palais, and the end of the Ile de la Cité adjoining the Pont Neuf—always with the exception of the picturesque houses looking on the Place de Harlay, several of which still preserve their aspect unaltered since the days of Louis XIII. Some vandals have wished to destroy these, to replace them by a new square in front of the Henri IV. statue. This project has again been brought forward for discussion, and the completion of the Palais de Justice is at present engaging the attention of the Conseil-Général of the Seine. The official plan, as presented by the architect, M. Tournaire, is considered to be open to criticism in some points of detail. For instance, on the Quai des Orfèvres—where there stands at present a block of building erected by M. Diet in the style of the Italian Renaissance, it is proposed to erect a new building in a totally different style, and separated from (or connected with) the other building by a tower which is merely a bad copy of the Tour St. Jacques or the tower of St. Germain Auxerrois. This is the portion of the scheme most criticised, since it has no *raison d'être* in itself, and would hide from view, moreover, the flèche of the Sainte Chapelle, a gem of mediæval architecture which is already far too much buried and hidden by the surrounding buildings. At the angle of the Boulevard du Palais and the quay the architect proposes another tower to which no objection is made, and the design of which recalls aptly the ancient towers of the Conciergerie, the clock-tower especially. The conclusion of the Conseil-Général is that the plan must be re-modelled, more especially in the matter of the first-named tower on the Quai des Orfèvres. It is suggested that something in the nature of the "Porte du Palais de Justice" (so-called) at Bordeaux would be suitable here, and would also have the advantage of not interfering with the view of the flèche of the Sainte Chapelle.

The enlargement of the Halles Centrales is also a subject under the consideration of the building authorities of Paris, and it is hoped that this long desired and very necessary public improvement will now be carried out. The cost of purchasing the property which will have to be cleared away to leave a site for the extension of the Halles is estimated at 20 million francs. The additions will include the erection of new pavilions with façades of seven bays towards the Rue Berger and Rue Coquillière, forming a kind of crescent on the side adjoining the Bourse. The new works will include also the prolongation, across the Halles, of the Rue Antoine Carême; the enlargement of Rue Coquillière and Rue Deux-Ecus, which, by Rue Berger, will place the Louvre in communication with the Boulevard de Sébastopol; and, lastly, the demolition of Rue Oblin, Rue de Viarmes, and Rue Vauvilliers. This will realise the scheme of the enlargement of the Halles, as it was conceived by Napoléon in 1810.

There is a third important subject now under the discussion of the Municipal Council. With the progressive extension of the Municipal Services, the Hôtel de Ville of Ballu and Deperthes is now notoriously insufficient in its accommodation. Already several houses in the Avenue Victoria and the old Caserne Lobau have been transformed into auxiliary offices, and are too small. It is therefore proposed to transfer a good many of the offices to the Caserne Napoléon, behind the Hôtel de Ville. The finance department could be accommodated there; and as the Council room is much too small for its present numbers, it is proposed to build a much larger one along the Rue de Rivoli, with extensive galleries for the accommodation of the public and the press. The realisation of this scheme, which will cost a great deal, is more or less connected with the question of removing the State Colonial Department from the Pavillon de Flore, where its presence constitutes a danger to the collections of the Louvre. If the State consents to give up the Caserne Napoléon to the Municipality, the latter will in its turn have to cede to the State a large building in Rue Oudinot to form a home for the Colonial Department.

The Under-Secretary of Fine-Arts, M. Dujardin Beaumetz, has just inaugurated at the Louvre the new "Salle de Mastaba," the funeral monument to an Egyptian King of the First Dynasty which the French Government has become possessed of through the good offices of M. Maspero, and which M. Georges Bénédite, the curator of Egyptian antiquities, discovered in the plain of Ghiseh. This new exhibit occupies a gallery on the ground floor, under the Salle des Etats. M. Bénédite has collected in the same gallery some other Egyptian antiquities of great interest, including some coloured statues of which the colour is still to a great extent preserved. The whole gallery is a most interesting and valuable addition to the great Museum.

The shop-keepers and proprietors of the Avenue de l'Opéra have addressed to the Municipal Council a series of proposals with the object of giving to that thoroughfare, which is so busy by day and so dull and melancholy after the shops are shut, something of the animation and gaiety of the Grand Boulevards. Among the other proposed attractions is a scheme for decorating the Avenue by the erection, along the lines of the footpavement, of bronze pedestals carrying vases to be filled with flowers or shrubs according to the season. It is considered to be rather a puerile effort at attraction, and not likely in itself to render the street a rival of Boulevard Montmartre or the Boulevard des Italiens. What it wants is a more monumental style of architecture, and the opening of cafés and theatres, in place of the monotonous row of shops, the closing of which in the evening removes half the light from the street. It is too late now to remedy this defect, though it is surprising that it should have escaped the consideration of M. Alphand when the street was laid out.

At Père la Chaise cemetery the work of erecting the new Crematorium is going on fast. The building is from the designs and plans of M. Formigé, and the principal façade is to be decorated with a sculptured pediment by M. Bartholomé.

M. Dujardin Beaumetz has decided to reserve three rooms of the Grand Palais des Arts for the organisation of retrospective exhibitions. The first of these will be devoted to the drawings of the late Daniel Vierge, who died last year, and whose work has not yet been collectively exhibited.

We have to regret the loss of M. C.-J. Baptiste Eugène Guillaume, till recently the Director, for many years, of the Ecole Française at the Villa Medici at Rome, who has died there, at the age of 83. M. Guillaume was a pupil of Pradier. He obtained the Prix de Rome in 1845, and in 1855 obtained a "première medaille" at the Universal Exhibition of that year, as well as the cross of the Legion of Honour. In 1862 he became an Academician in the Section of Beaux-Arts, and a little later was elected a member of the Academie Française. In 1867 he obtained the Medal of Honour at the Salon, and was promoted "Officier" of the Legion of Honour, becoming "Commandeur" in 1875, "Grand Officier" in 1889, and "Grand Croix" in 1900. In 1874 he was appointed Director of the Villa Medici, where M. Carolus-Duran has just succeeded him after his retirement on account of age. His first important works, "Anacréon," "Les Gracques," and "Le Faucheur," are in the Luxembourg. Among his other works may be mentioned the bas-reliefs in the Church of Ste. Clothilde, illustrating the life of that saint; the statue of Claude Bernard which stands in front of the Collège de France, that of Thiers at Versailles, and those of Philippe de Girard (Avignon) and Rameau (Dijon). M. Guillaume united in himself very various qualities and talents which gave him rather a special place in the world of contemporary French art. He was also an excellent instructor, in which capacity he has influenced many of the most prominent sculptors of the day.

ROYAL SANITARY INSTITUTE.—At an examination in Sanitary Science as applied to Buildings and Public Works, held at Plymouth on February 24 and 25, four candidates presented themselves, one of whom, Mr. L. G. Hooper (Devonport), was granted a certificate.

NOTES AND SKETCHES IN SOUTHERN ITALY.—VII.

GIOVENAZZO, TERLIZZI, AND RUVO.

GIOVENAZZO is now a small place, with about 8,500 inhabitants, lying on the seaboard between Bari and Molfetta, four miles from the latter and twelve from the former. Pontanus asserted that it occupied the site of the ancient Egnatia, but that lies farther south, between Monopoli and Fasano.

It has walls and bastions on the sea side, part of which are said to be of the time of Trajan, though they were made in their present form by Giovanni Battista Caracciolo, Prince of Melfi, in 1529, when many houses and churches were demolished and gardens devastated to clear a space without the walls. Bastions pierced for cannon command the entrance to the port and the sea just outside, which, with the stone-built houses peeping above them, look stern and forbidding from the further side of the water. A couple of gateways in them are mediæval and picturesque. The bishopric dates from the IXth century. In the XIth the city belonged to the Byzantines, in 1211 to Otho, forty-six years later to Giordano Lancia of Anagni, and to Robert, brother of King Lewis. It has suffered much from siege and plague, without being of historical importance. The severest sieges were those by the patriarch Vitelleschi (which was unsuccessful) and by the princes of Melfi and Taranto. The severest plague visitations were in 1213 and 1478.

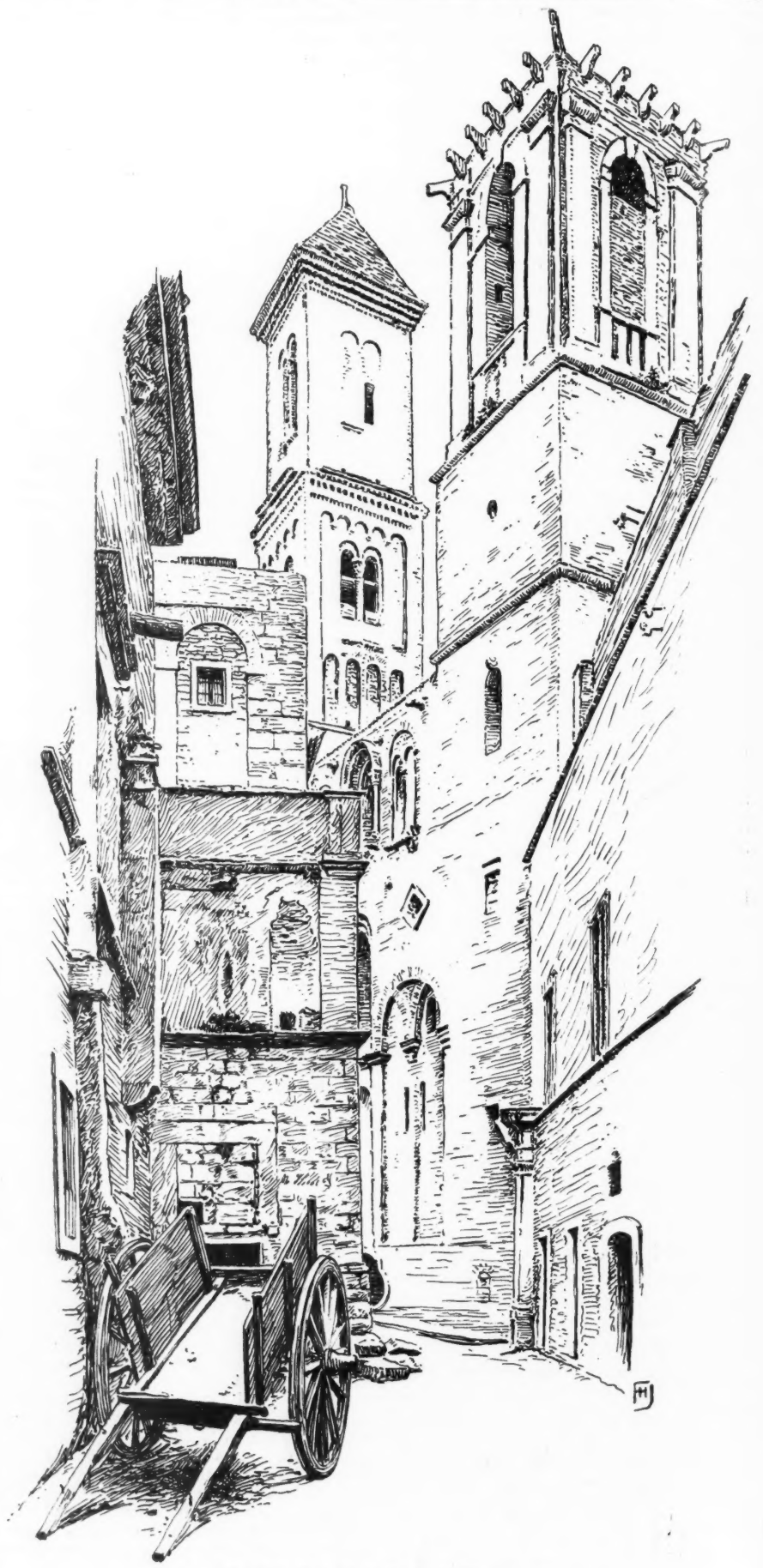
The cathedral is the most important building in the place. According to tradition, it was begun by Constance, widow of Bohemund. She certainly gave privileges to the city and gifts to the clergy and Bishop Bernerius, among other things a tithe of the returns, which is proved by a document of 1113 in the archives. It was dedicated to S. Maria Assunta, and at a later period to S. Thomas of Canterbury also. The portions of the Norman period which are still remaining are the east front, part of the north side, and one door of the façade. The crypt was finished in 1150, and is fine. It has fifteen vaulted compartments, resting on ten pillars and on pilasters in the wall. In the XVIIth century it was plastered up and "decorated," and at that time the caps were hammered over and broken, but the plaster has been removed. The bases have spur leaves. The diagonal arches raise the crown of the vault much above the transverse arches, so that the vaulting is more or less domical. The cathedral was consecrated on May 2, 1283, by Bishop Giovanni of Giovenazzo. In the first half of the XVIIth century the interior was much altered by Bishop Giulio Masi, and is not now interesting, but it contains an XIth century painting of the Madonna above the high altar, enclosed in a modern tabernacle, and in the treasury is an enamelled silver cross.

The south door is of the Angevin period, and is rather pretty. It has an arched projecting portion sustained on corbels, slightly pointed, with a square top, above which is a gable roof supported on a little twisted column at one angle, the other side being fixed in a projecting wall. Beneath it is a circular sinking with the Agnus Dei in the centre and ornament round.

The outer archivolt is elaborately carved with acanthus along a round moulding; the inner with the adjoining wall has been restored and recut. On the door hangs a little knocker of twisted iron with a projecting horn. The eastern façade resembles those at Bari and Molfetta, having two campanili with screen wall between them. The south-eastern tower was cased in its lower part to strengthen it after the earthquake of 1660, and the other was rebuilt by Bishop Alfieri (1671-82) as to the part above the screen wall. The wall has two ornamented window piercings in the centre, one above the other and a long panel of similar shape below, and at each side is the commencement of an interlacing arcade with corbel in the centre. At the top two two-light windows flank the centre feature, one on each side, and below them are two squares, set diagonally, pierced with ornament, which reverses the voids and solids. The original tower has two-light piercings above the solid base, then an arcading of four round arches and a two-light window above. The top story is smaller, with a graceful slender shaft in the two-light opening. The exterior in general has been to a considerable extent rebuilt on the old lines.

The town was constantly engaged in ecclesiastical squabbles with the neighbouring Terlizzi, and in 1749 the two places were put under one bishop, who was to be installed alternately in Giovenazzo and Terlizzi. In 1818 both were united to Molfetta, but in 1836 the dignity of the two churches was given back to them, so that there are now three cathedrals and one bishop. In the church of Spirito Santo, which was completed in 1395, there is a painting of the Madonna of Constantinople in the Byzantine style.

Terlizzi lies some five miles inland on a little hill. It appears to have been an ancient Greek city, like so many of the Apulian towns, for antique tombs have been found near the city, but it certainly existed in the Roman period, since two sepulchral inscriptions found in the communal wood called "Parco" name "Turricum," and one is of the period of Trajan, who restored the Via Appia (which passes about a mile away) so thoroughly that it took the name of Via Trajana, while the octagonal bronze pen-case with silver-figures of the planets upon seven of its sides now in the Naples Museum was found here, as well as coins, vases, and remains of buildings in a place outside the wall called "Lo Specchione." A pontifical bull of Felix IV. (530) proves that the arch priest of Terlizzi was then of importance



Eastern End of Cathedral, Giovenazzo.

in the provincial synods, and had been so for a considerable period, for the words used are "*sicut antiquitus sedebat.*" One of the many mediæval towers still exists on the east of the town, the "Torre Maggiore." It is a strong, square building, and is at least as old as the period of the Angevins, since the chronicle of Domenico Gravina mentions its traitorous cession to the Sanseverineschi for 300 florins. It is indeed older, for it is mentioned in a document of 1167 in the archives of the chapter. The castle lay near the cathedral. Its remains were finally demolished in 1845 to build a prison, except one tower, which fell in 1857. There are a few fragments remaining of the circuit of the town walls, and here and there in out-of-the-way corners a few late Gothic windows of delicate design may be found.

In Lombard times the name appears as "Treliccio," and in 1219 as "Terlitium." Frederick II. and Ferdinand of Aragon often lived in the castle. A Count of Terlizzi named Tuzziaco was implicated in the murder of Andrew of Hungary, husband of Giovanna I. of Naples, at Aversa in 1345; and, though he escaped punishment at first through the favour of the Court, he was seized by the people of Naples a year after (who broke into the Castello Nuovo under the leadership of the Duke of Durazzo and Count Avellino) and executed in the barbarous fashion common in those days. Documents of 1131 and 1172 show that there were then Greek churches as well as Latin in Terlizzi. In 1131 Angelo, Archbishop of Bari, in confirming Urso in the Bishopric of Giovenazzo, gave him jurisdiction over the church, and the contests between the two towns for ecclesiastical supremacy smouldered on until the XVIIIth century. In 1738 the Bishop of Giovenazzo was driven away from Terlizzi with stones, but in 1744 an arrangement was made by which the arch-priest Monsignor Fioravanti gave up his office, Giovenazzo being united to Terlizzi, in which town the bishop was to reside, though he was to be installed alternately in the two places. This was confirmed by Charles III. in 1746, and by Benedict XIV. in February, 1747. The people were so puffed up with pride at their success that efforts were made to raise money to build a finer cathedral than the XIth century church (founded in 1038), which had been enough for them before, and, having obtained a promise of help from Naples, rose in 1749 and destroyed it, the only part preserved being a portion of the west door, made by Anseramo da Trani in the XIIIth century, which now serves for the oratory "del Rosario," where it was placed in 1863. The new cathedral is quite featureless, and languished unfinished for more than one hundred years, having been consecrated in 1872. In the courtyard of the prison is a portion of an Angevin sarcophagus from the same church, enriched with very fine ornamental carving of vine-leaves and palms. The door had lions on columns in the usual fashion at the sides and a statue of St. Michael at the summit of the arch. The campanile had an arch under it as at Trani. It is observable that Anseramo has made his ornament spring from the bottom of one side, pass over the arch, and down to the base of the other side—a very unusual treatment at this period. In the tympanum is a Last Supper, and on the architrave the Annunciation, the Angel appearing to the Shepherds, the Nativity, and the Crucifixion. The festival of the Rosary was instituted to commemorate the Battle of Lepanto, October 7, 1571. The oratory is attached to S. Maria Nuova, the church of the Franciscan observantists, in which the cathedral chapter established itself between 1749 and 1872. Here is a picture by Titi n, with a curious history. It was brought from Spain shortly after 1500, and then showed a Virgin enthroned, with God the Father in the clouds above and SS. John Baptist and Francis with the stigmata on the right and left of her respectively. In 1629 the city belonged to the Grimaldi of Monaco. The Count of Conversano, coveting the picture, made arrangements for it to be stolen, but the thieves took too short ladders with them to reach to the top of the frame, so cut out the lower portion, leaving God the Father in the clouds above. Prince Grimaldi waited for two years to see if there was any chance of its returning, and then had the upper part taken out and sent to Monaco, when he gave it to the King of France, who again gave it to the Grand Duke of Tuscany, and it is now at Florence. The lower part remained at Conversano for fourteen years, when remorse struck the Count and he returned it, escorted by all his clergy with lighted tapers to Palo, his frontier town, where it was received by the clergy of Terlizzi in like manner. The church of S. Maria Severita bears an inscription giving the names of Do[s] Nicolaus Angelus and Mag. Nicolaus de Calamia. It is said to date from the year 1000, and belonged to a German order of knights at a later period.

Door of Ancient Cathedral Oratory of the Rosary, Terlizzi.

Ruvo was the most important of the three places described in this article, and must have been a very large city, since wherever foundations are dug on the hill which it occupies, vases, coins, and ornaments are found. It is believed to have been twenty times as large as the present town. It is three miles from Terlizzi, and a service of country carts connects the two towns, at a tariff of 1½d. per passenger. The Greek coins found here have the name PYBA, with an owl and head of Pallas, which show that it was an Athenian colony, or the word PYBAΣTEIVOI. The Roman coins are inscribed RUBI, which is Horace's word for it, but Pliny uses Rubastini. Many fine antique vases and terra-cottas have been excavated, which are now in the Naples Museum. The objects of antique jewellery which have been found here are thought to be the finest in existence, consisting of little bottles encased in a filigree of gold, collars with pendants, brooches, rings, and other ornaments. The men's tombs yielded beautifully-worked armour and similar objects. Three different kinds of tombs were found, which indicated different periods, and many of them had been violated in ancient times. The soil shows several strata of ruins or *débris*, a sign that the town was several times destroyed. Only one antique inscription remains, which records that under Antoninus Pius there were decurions and augustals. There are collections of antiquities in the Palazzo Jatta, the Palazzo Caputi, and the Palazzo Fenicia. After a visitation of the plague in the XIVth century all the records of the city were burnt, but one parchment (of 801) remains in the archives of the chapter, which asserts that, from the time of the foundation of Terlizzi, Ruvo had had its senatorial body. At the third Council of Carthage a Bishop Epigonius of Rubi was present, and in 493 S. Lorenzo, Bishop of Siponto, invited John II., Bishop of Rubi, to assist in the consecration of S. Michele on Monte Gargano.

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Central Door of West Front, Cathedral Ruvo.

There are several mediæval palaces, of which the communal palace is the most noticeable. It once belonged to the Carafa, and afterwards to the Balzi. It shows remains of windows and arches of the Norman period. The Palazzo Spada, formerly Rocca, has an early Renaissance courtyard bearing considerable resemblance to that of the Palazzo Sylos-Labini at Bitonto. The bishopric was united to Bitonto in 1818; the bishop has been suffragan to the Archbishop of Bari immemorially.

The cathedral is dedicated to S. Maria Assunta, and is a basilica consisting of nave and aisles with transept and three apses opening from it, the plan forming an Egyptian cross. The nave has five bays with piers—on the right side consisting of half-columns and pilasters, on the left pilasters only, forming a cross in plan, but the side pilasters turn to half-columns just below the caps, the projecting portion being supported upon a head as corbel. The pier next to the transept is larger than the rest, and from it a large arch spans that space. There are five chapels beyond the aisles to the width of the transept, as at Bitonto, which have cross vaulting (like the aisles) and modern decorations. The nave has a wooden roof dated 1749. It is possible that there may have been an intention of building a central dome, since the commencement of preparation for it appears in some remaining details, as in the nave walls there appear similar preparations for vaulting ribs. Over the nave arches is a string course supported on long corbels, five between each couple of piers. They are finely carved, some with men's heads, some with beasts, and some with leaf ornament. The capitals also are well carved with great variety, many of them bearing heads, monsters, lions, twisted together with one head for two bodies, and foliage much undercut. The imperial eagle frequently occurring makes it probable that the church was finished under the early Suabians. Signor Venturi thinks that the vases found in such numbers at Ruvo may have influenced the choice of subject and style. The caps are XIIIth century in style, and all of the same form as at Molfetta. The triforium arcade is very irregular, on the right consisting of two, three, three, and two arches beneath a larger one, and on the left of two, three, three, and three. In one case the arches are pointed and some of them are elliptical, but most of those throughout the cathedral are round. There cannot have been a "matroneum," since there are no traces of stairs, and on the north side the arcade is glazed as windows. A portion of the ancient "paliotto" was found during the restorations and used to develop the design of the present one, which is beneath a ciborium designed by Signor Bernich (who carried out the restorations), based on that of S. Nicola at Bari. There are a few remains of indifferent XIVth century painting on the walls of the transept and near the western doors.

The central apse has the usual Apulian east window—a tolerable example—but those of the side apses are square-headed. The ends of the transepts have a large two-light window above and two smaller below. The lower windows resemble those of S. Gregorio, Bari. The nave walls are surmounted by a round-arched frieze with two arches, one beneath the other, and elaborately-carved corbels with heads of classical divinities, etc., excellently sculptured. That on the south side is of the time of Frederick II. The little windows of the clearstory are filled with slabs, pierced with intricate patterns, as at Bitonto. The façade is curiously proportioned, and it is plain that the ground has risen several feet. The three doors look earlier in style than the rest, and have elaborately-carved ornament surrounding them, especially the centre one, which is probably the most beautiful example of a doorway in the district. There was a church dedicated to the Trinity on this site in 1177, which was the mother church of Ruvo before the cathedral was founded in the XIIIth century, and Signor Bernich thinks (with great probability) that these doorways belonged to it, as they appear small for the rest of the façade. At each side a slender column on the back of a much-worn lion supports a griffin holding a man's head between its paws; that on the left is a modern restoration. They are curiously out of scale with the rest of the door. Herr Mothes ascribes a much greater antiquity to the present church, and thinks it was begun about 1060 and finished before 1110. He bases his belief in this early date partly on the two-light window of the façade and partly on the forms of the clearstory windows and those of the transept, which, with that of the central apse, he says point to the date of the church being between 720 and 800! There is an inscription which refers to the rebuilding of a church and names a Bishop Petrus—a name which occurs in the history of the bishopric in 1100, 1300, and 1440. It may refer to the earliest bishop of the name, and to the earlier church of the Trinity. Herr Mothes groups the central door and the wheel window together in a very strange fashion,

and ascribes them to about the year 1180. Between the doors and at each end are engaged shafts for a porch, the shapes of the vaults of which (elliptical and slightly pointed) appear in the first arch, which is set in the wall. Above the side arches are two quatrefoils, which, with the rose window, are of a later date. Immediately below the rose is a graceful two-light window, and above it a little niche with the figure of a bishop. The slope of the gable and of the aisle walls is rather steep, and they are finished with a raking cornice similar to that of the side walls of the nave. At the summit is a figure of S. John Baptist holding a standard. The rose has diverging columns from a pierced centre, which shows Arab influence in its design. They are octagonal, twisted, or round, the heads of the arches which spring from them are trefoiled, and the lights are filled with pierced lead work in lieu of glass, as at Troja. It may be as late as the XIVth century, but is probably due to Frederick II. and the Saracenic and French workmen whom he employed at the neighbouring Castel del Monte. Round the outside ring are beasts upon brackets.

The cathedral was "restored" in 1587 and 1749, and again, in a different manner, a few years ago. The campanile, which has nothing remarkable in its design except that the door is on the first floor, was a watch tower, and belonged to the city walls, which ran close to the church. Considerable remains of later walls, with bastions pierced for guns and gates may be seen on the side towards Terlizzi, and there are also remains of some of the towers of the mediæval nobility. The church of S. Giovanni Rotondo bears an inscription of 1377, recording the name of "Mag. Jobis de Juvenaccio fil: [*quon*] dam M. Andree de Rubo." From the edge of the town towards the sea one sees all the coast towns strung like jewels along the shore, from Monte S. Angelo in one direction to Conversano beyond Bari in the other.

F. H. J.

DR. WALDSTEIN ON GREEK SCULPTURE.

ON Friday last week and on Monday last Dr. Waldstein gave two extra lectures to the students of the Royal Academy on the subject of "Greek Sculpture," supplementary to the lectures on sculpture by Mr. Alfred Gilbert.

The opening portion of the first lecture was devoted to emphasising the importance to artists of a general culture, in addition to the acquirement of practical power in their special branch of art. His position in regard to the subject, he said, was very different from theirs. They were occupied in acquiring the craft of the sculptor, he was occupied only in the theory of the art; though he might add that he had at one time practised modelling in clay, not with any hope of becoming a sculptor, but with the view of understanding better the processes of the art whose history it was his business to study. His position was that of being a critic of the art, not in the sense too often attached to the word "criticism," as if it were only the art of finding fault, but in the true sense of the word, which meant the study and discovery of the philosophy of art—the reasons why one thing was better than another. It was a mistake, he thought, to suppose that the best art could be produced by the mere impulsive effort of genius, apart from intellectual cultivation. At the same time he did not think that the creative impulse of the moment should be checked by intellectual considerations of the meaning and motive of art. The intellectual culture should have come before that; it should have filled the artist's mind and influenced his nature, so that when the creative impulse came to him it showed the impulse of an educated mind. The great men of Greece, whether statesmen, artists or poets, were apparently all men with the same general level of culture; Pheidias and Pericles were in this respect on the same level. As an example of the importance of general culture in the understanding of art, he would give them an illustration from another art—that of music. A young girl who was anxious to become an eminent pianist came to Moscheles for his opinion on her acquirements. She played him a sonata of Beethoven's. At the end, instead of giving any opinion, he sat down and played it himself, and the young lady was in despair. She said "Oh, how, how can I acquire the power of playing it like that?" He replied, "Read Shakespeare." The idea that uncultured genius would do by itself was a mistake. There might be apparent exceptions, great works produced occasionally by men of little general culture; but even in these cases they had the inevitable reflection, how much greater things might these men have done if their general education had been higher. As a rule, the greatest artists had been among the most intellectual men of their time; Da Vinci and Michaelangelo were examples; and Reynolds too, whose lectures were so full of suggestive thought. These instances were enough to show that general culture did not, as was sometimes argued, extinguish or weaken the special power of artistic creation. It was good for an artist to study and to know the history of his own art. It might be said that there were people who talked admirably and enthusiastically about art and yet could produce nothing; true, but that was not *because* they talked; they were men who, had they been silent, would not have produced works of art either; but they were interested in art and therefore talked well about it, which, after all, was better than not caring about it at all. Such men were often very unhappy from their consciousness of the gap between their ideas and their want of power of execution; though he had known cases where the gap had been filled up, and where men who began life only in talk about art had afterwards bridged the gulf, and become capable and successful artists. Ignorance of the past history of their art, and of other schools of art, was no factor in producing what was called "originality"; an originality which merely depended on ignorance was not worth having. On the other hand, he would warn them against the danger of setting out to copy any special school or style. The style of various epochs or of various artists was a very interesting subject of study, but to attempt to assimilate it was to lose one's own style. There was a celebrated French saying "Le style, c'est l'homme," which was quite true in a sense; but in regard to art he would rather say "Le style, c'est l'objet"; the question was, what you wanted to do, not a particular way of doing it. The worst form of imitation in art was when a man got to imitating himself; found there was a particular thing he could do, and repeated it over and over again.

In studying the art of the past, he would ask them to consider what it was that made the essential character of Greek sculpture. The much-abused word "classical" had done much to deter some people from the study of antique art. "Classical" seemed to mean to them the copying of casts of ancient statues; and hence there had arisen in modern times that antithesis between "classic" and "romantic" art, with the idea that the former was a kind of scholastic art, and the latter was founded on nature. This was quite a misconception.* Greek art, in fact, was not "classical," in the sense that we now use the word. The Greeks, on the contrary, went direct to nature. What was it, then, that gave their art that peculiar power which it still exercised upon us? Was it not a strange thing that a people who lived more than two thousand years ago, in a different climate from ours, with social customs and religious faith so different from ours, were still exercising this influence on us through their art; that we could still find no such models for study as their sculpture? Why was it? It was, in the first place that their ideals were based on nature, and nature was unchangeable; and that they generalised nature, instead of copying the anatomical peculiarities of individual models. There were other nude studies in other epochs of art that were very interesting; Albrecht Dürer's Adam and Eve, for instance; but we could not imagine them regarded for hundreds of years as typical figures; they were according to the taste of their day and the peculiarities of the artist's style. We could not hold up the Dürer type as a model for all time. But no one ever stood before the Elgin marbles without feeling that here was something really great; and that was because they were based on the essentials of nature and not on the accidentals.

A number of illustrations were then shown on the screen, showing examples of the progress of Greek sculpture from the very earliest known attempts at the representation of figures, down to the close of the archaic period. In regard to the earliest examples, Dr. Waldstein observed that they did not show so much the attempt to imitate nature as the desire for a harmonious line. He did not consider that art began, as was often said, by imitating nature; it began from the desire to produce something harmonious and decorative. Art in fact was to the Greeks, in the intellectual world, what the athletic exercises of the Palæstra were in the physical world—the outcome of a surplus of energy. And Greek art owed a great deal to the Palæstra; the Greek sculptor had the opportunity of constantly seeing the nude figure in action, and becoming acquainted with the play of the muscles in every position, and had consequently no need of anatomical study by dissection. Returning to the examples of archaic art, it was remarked that one of them had quite a look of Assyrian sculpture; but they must not be carried away by these resemblances into a mistaken idea of the one country's art being necessarily influenced by the other. The fact was, all sculptures of an early stage of art resembled each other more or less; they were alike because they were early. An interesting example was shown of an early stone statue preserving all the form and characteristics of its predecessor the *Βρέτας* or wooden plank figure rudely cut in low relief. Coming to the more advanced examples, it was to be observed that architecture had a great and an early influence in leading to a greater variety and freedom of line in sculpture. When figures had to be designed to fill the space of a metope or fit into the angle of a pediment the sculptor was compelled to a greater freedom of pose; and hence we found that single statues, unconnected with architecture, were often more stiff and archaic in style than architectural sculpture of the same period.* This was illustrated especially by the Ægina sculptures. In regard to these, too, it might be noticed that the treatment of the heads was much more conventional than that of the figures, as if at this period the figure as a whole was so interesting to the artist that the face was comparatively neglected.

In his second lecture Dr. Waldstein briefly reviewed the ground they had passed over in the illustrations to the last lecture, where they had commenced from the earliest rude attempts at sculpture till, in the Discobolus of Myron, they found the sculptor at last attaining to something like the ease and freedom of nature. He had said before that Greek sculpture had retained its hold over us because it was founded on nature; but how was it founded on nature? What was truth to nature? Suppose an artist tried to represent this audience before him, where and how should be begin? He might show the general effect of the gathering, what would be called an "impressionist" view of it; or he might study the members of it as individuals, without too much detail; or he might go more into the detail of single figures. Each method was true to nature in a way. If one looked at one's own hand far off or close to, or with a magnifying glass, the representation of it would be true in each case, though very different. They had to select the kind of truth they wanted. Insignificant details of realism were not important in regard to the whole of life. He remembered that when Mr. Muybridge first brought out his photographs of animals in motion, an artist said to him (the lecturer) "this will revolutionise the whole art of painting." He said "No," because what these photographs showed was what the eye could not see; the eye unconsciously selected the sum of these successive realistic actions, and the old conventional way of representing a galloping horse, which was the sum of the impressions on the eye, was really much more true than painting horses as if they were buck-jumpers; it was true they did momentarily assume that attitude, but we could not see it.

Good art consisted, for one thing, in a harmony between the form and the matter, between the "how" and the "what"; it had to find the proper form of expression for its subject. As an illustration, take the art of Rhetoric—of Eloquence, as it was commonly called. If he made a very simple and unimportant statement to them, such as "It is a quarter past four," and did so with a great solemnity of voice and gesture, that was bad art; the form of expression too large for the subject. Equally bad was it, on the other hand, if he made a statement of the greatest importance to the future, say, of the human race, in an offhand conversational tone. All the arts were forms of expression, and all dealt with nature, but they differed in their way of doing so. Now sculpture, in its important forms, was expressed in materials of severe and

* Goethe somewhere remarks that "In art and literature, the Romantic is always the false."—Ed.

* May not this partly have resulted from the fact that the single figure was often a peculiarly sacred statue of a deity, for placing in the shrine, and therefore was purposely conformed to the accepted representation consecrated by ritual custom?—Ed.

monumental kind—marble or bronze; and in working in such materials the sculptor must have what might be called the artistic tact to select those aspects of nature which were in keeping with the use of a monumental material. That was what the Greeks did; they, as sculptors, fixed their attention on the central and lasting elements of life, ignoring the non-essential details. That was why their works had set the canon of sculpture for all time. They must be on their guard, however, against carrying this principle too far, against an exaggerated generalism. Sculpture, it must be remembered, had only its one moment of action or life. It had no background, like painting, to assist the spectators' interest; it could not, like drama, carry you on to a climax. It must be sufficient in itself, and for that reason it must be more severe, more self-contained, than painting. That consideration need not entirely preclude their representing action in sculpture, but it must be action with a sufficient and an important aim; not like the portrait statues one saw so many of, with one finger pointing to the barber's shop opposite. Decorative sculpture, which had to be considered in connexion with its surroundings, admitted of more movement than a single figure which was intended to be complete in itself. A garden statue, seen in connexion with the movement of trees or a fountain, could be treated less severely than a statue for a monument. Then dimensions had their effect; dimension meant a good deal. A small statuette might be treated in a playful or humorous manner, which became absurd or offensive in a figure on a larger scale; just as a pretty or a comical expression might be given to a face in a miniature, which would look vulgar and offensive if they could see it painted on a large scale on the opposite wall.

Proceeding to show photographs of examples, Dr. Waldstein first called attention to the two Olympia Pediments shown as whole compositions, and showed also an enlarged view of one of the figures, an old man seated, to point out what might be described as a piece of precocious realism in the treatment of the folds of the drapery, which he asked them to contrast subsequently with the far more effective conventionality of the draperies of the Parthenon sculptures. The Parthenon pediment was illustrated from the well-known drawing by Carrey. He observed that, after all, the Parthenon sculptures could not be taken to represent the highest and central achievement of Pheidias; they were but decorative adjuncts to the building, whereas his highest fame, with his contemporaries, rested on his great single statues of the gods in ivory and gold, and these were probably far greater work than even what we knew in the Elgin marbles. In regard to the metopes, he observed that there were three phases in this part of the work; an early one reminiscent of archaic influence, and two other phases of increasing energy and vitality of action, of which examples were shown. In speaking of the frieze, Dr. Waldstein drew attention to the manner in which it was designed to suit the circumstance of its being lighted by reflected light from below; in low relief, and with the highest relief in the upper part of the figures. In regard to the general composition of the frieze, it was noticeable how dramatically the sculptor had arranged it; the western face, which was the least important, showing only the action of preparation for the procession, while on the sides the real action began, leading up to the central ceremony on the east front: and they would see that on the west face the space was not very much filled up, while at the sides, as the procession developed, the ground of the relief was almost entirely covered with closely packed figures. In these Parthenon sculptures there was not only the beauty of modelling and design to be considered, but the largeness and significance of the general conception. In the East pediment of the Parthenon, for instance, the strife between Poseidon and Athene was connected symbolically with time and space, by the figures of the rising sun on the left and the setting moon on the right of the composition. He hoped that he had been able to show them that "the Antique" was not a dead thing, but something which had its meaning and its significance for us in the present day.

THE MEMORIAL TO LORD WILLOUGHBY DE BROKE.—The name of the executors of this monument should have been given as "Messrs. Jas. Garvie & Sons," of Aberdeen, not "Garbie." We were not responsible for the mistake.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT a special general meeting of this Institute, held on Monday last at No. 9, Conduit-street, Mr. T. E. Collcutt, Vice-President, in the chair, the Chairman, having announced that the meeting was convened pursuant to by-law for the purpose of electing the Royal Gold Medallist for the current year, moved, in accordance with notice, that Sir Aston Webb, R.A., be elected for the honour. Whereupon it was resolved, *nem. con.*, that subject to His Majesty's gracious sanction the Royal Gold Medal for the promotion of Architecture be awarded this year to Sir Aston Webb, R.A., for his executed works as an architect.

This concluded the business of the special meeting.

The following candidates were elected by show of hands under by-law 9:—

As Fellows.

F. E. Fellows Bailey, Walsall.
H. Bailey.
W. Bevan, Pretoria, S. Africa.
C. B. Bone, M.A., Oxon.
J. Campbell, Wellington. New Zealand.
W. E. V. Crompton.
C. B. Flockton, Sheffield.
J. F. Groves, Newport, Mon.
A. J. Hardwick.
A. G. Leighton.
H. H. McConnal, Walsall.
T. Moore.
A. Neill, Leeds.
E. T. Powell.
W. G. Wilson.
E. W. Wimperis.

As Associates.

T. F. Amery.
D. Anderson.
E. G. Goodson Bax.
W. S. Beaumont, Manchester.
M. S. Briggs.
J. S. Brocklesby.
C. Fry Callow.
C. P. Carter, Mansfield.
G. R. Ellis, Manchester.
J. A. Fletcher, Leicester.
H. C. Fread.
W. J. Freeman, Halifax.
C. L. Gill.
H. H. Golding.
P. A. Hinchliffe, Barnsley.
P. A. Horrocks.
A. B. Hubback, Kuala Lumpur, Selangor.
D. B. Jenkinson.
G. A. Johnson.
J. Miller, Sheffield.
C. Nicholas.
H. L. North, B.A., Cantab., Conway, N. Wales.
C. Paterson, Bowdon, Cheshire.
A. R. Powys, Montacute, Somerset.
E. Quiggin, Liverpool.
G. S. Salomons, Manchester
H. R. G. Strong Smallman.
N. C. Smith, Moffat, N.B.
E. G. W. Souster, Northampton.
C. J. Thompson.
J. N. Randall Vining.

The St. Louis Exhibition, 1904.

Mr. H. Phillips Fletcher, Godwin Bursar, 1904, then delivered a lecture, illustrated by some excellent lantern views, entitled "Some Impressions of the St. Louis Exhibition, 1904." Having briefly referred to the commemorative nature of the exhibition, and to the acquisition of the Louisiana territory (1 million square miles) from Napoléon, for 15,000,000 dollars, the lecturer described a large block plan of the exhibition, showing the disposition of the various buildings. The area of the exhibition was 1,240 acres, and the main buildings were arranged in the shape of a fan, the Festival Hall forming the handle to the fan. The architect of the Fine Arts Building was Mr. Cass Gilbert, and he was asked to design a Festival Hall to cover the site right in front of the Fine Arts Building, and this he did, although it entirely hid the Fine Arts Building from the front. As to the engineering works in the layout of the site, hills had to be lowered, valleys graded, a lake had to be piled over, and other works carried out. The whole of the main exhibition buildings were built of timber, and, though this was the largest exhibition so far held, the mode of construction was a great success, and in his opinion wooden spans of 100 ft. were eminently suited for temporary buildings. At least 30 to 50 per cent. in cost was saved by the use of timber instead of steel, and of course the salvage was greater than it would have been in the case of steel. One reason why wood was selected was because the great Steel Trust had, at the time the exhibition works were in hand, such a great monopoly that prices of steel were found to be prohibitive. The buildings were intended to be finished internally in plaster, but this had to be omitted for want of funds. The sculpture work on the buildings was on a magnificent scale. The main cornice level of the buildings was fixed by the Committee of Architects at 60 ft. from the ground. Mr. Masqueray was the chief of design, and there were over 500 buildings to look after during construction. All the main exhibit buildings were designed by members of the Committee of Architects—that was to say, there was a committee of architects appointed, and each member of the committee, after the general plan was decided upon, was given a building to design, but these architects were responsible only for the façade of their buildings, the construction being left entirely to the Division of Works. This method of separating the design from the execution of buildings appeared to be gaining ground in the United States, and he was of opinion that if this were developed it would not be good for architecture. The architect alone should be responsible for carrying into effect the design he originated, and architects worthy of the name must first of all study the materials they had to deal with, and learn their capabilities, for this knowledge was necessary in designing good architecture.

Mr. Fletcher then showed the chief buildings on the screen, and gave a few facts in regard to them.

The Festival Hall was seated for over 3,500 people, and the width of the dome was 90 ft. The cost was 53,000*l.*

The U.S. Government Building was the only steel arch building on the site, and it was covered by one span of 175 ft., and the lecturer showed a view of the building from some beautiful gardens adjacent to it. The building was designed by Mr. J. Knox Taylor, who was the supervising Government architect of the Treasury Department. Access to the building was obtained by a central flight of steps 100 ft. in width. The cost of the building was 73,000*l.*

The Mines Building was designed by Mr. Theo. C. Link, of St. Louis, who received most of his architectural education in England, and he was one of the two architects who had made any attempt at originality in design. The building suffered to some extent from the fact that in construction the obelisks were jammed up against the front, and so spoilt the view of the dome. The cost was about 110,000*l.*

The Liberal Arts Building looked as though one part was fighting against another, and it seemed to him to be a very unsatisfactory building. The architects were Messrs. Barnett, Haynes, & Barnett, St. Louis, and the cost was 96,000*l.*

The Education Building was designed by the President of the American Institute of Architects, Mr. Eames, of Messrs. Eames & Young. It was a quiet and dignified building, and was very well suited to the purpose for which it was designed. It had an open court which shared the fate of all but one of the open courts designed in connexion with the exhibition buildings, *i.e.*, it was built over. The cost was about 75,000*l.*

The Manufactures Building was by Messrs. Carrére & Hastings, of New York. It was skilfully built, but rather expensive, the cost being about 144,000*l.*

The Louisiana Purchase Monument was 100 ft. in height, with a statue of "Peace" crowning it. The architect was Mr. E. L. Masqueray.

The Electricity Building was the only building whose internal court was not interfered with, and it was used for a wonderful floral clock, 50 ft. in diameter. The architects of the buildings were Messrs. Walker & Kimball, of Boston. It cost some 85,000*l.*

The Varied Industries Building was designed by the architects of the Buffalo Exhibition, *i.e.*, Messrs. Van Brunt & Howe, of Kansas City. It was the only building in which the Corinthian order was not employed with the exception of the Mines Building. There were two internal courts in the building, but they were built over. The cost was 142,000*l.*

The Machinery Building housed some wonderful exhibits, but he was sorry to say that British manufacturers and ironfounders were not well represented. The architects were Messrs. Widmann, Walsh, & Boisselier, St. Louis, and the cost without the sculpture was 110,000*l.*

The Transportation Building was designed by Mr. Masqueray, and it was in many respects a very satisfactory one. In it there were over 4 miles of track for displaying motors, etc. The approximate cost was 138,000*l.*

The Agriculture Building was well designed and adapted for the purpose intended. It was a long square building, without any plaster attempts at imitation stone structure. It was intended to receive colour treatment, but for financial reasons that had to be abandoned. The building covered over 20 acres, and it had 192 columns. It was well proportioned, and although the largest building in the Exhibition, its cost was 110,000*l.* only. Mr. Isaac S. Taylor was the architect.

The Horticultural Building had some effective outside treatment. The cost was 51,000*l.* Mr. Masqueray was the architect.

The Forestry, Fish, and Game Building

was also designed by Mr. Masqueray, and it was a satisfactory little building. In the inside of the building was a large lake which was used for salt water fish, and salt water was brought to it every day from the coast.

The Administration Building was one of the buildings of the Washington University. The Washington University buildings were being erected at the time, and the directorate immediately hired the whole of them for the exhibition. The Administration Building was designed in what was frankly intended to be English Tudor Gothic, but probably the designer had only a nodding acquaintance with these styles, and the building was hard and unsympathetic.

The Washington State Building was erected to show what enormous balks of timber could be obtained. The great angle buttresses were 90 ft. long and 24 ft. broad and 28 in. thick.

Views of the Japanese and French buildings having been shown, the lecturer showed the building for the German Commission, representing the Castle of Charlottenberg and placed on the best site in the Exhibition.

The British Pavilion worthily housed the representative from this country. The motif was the orangery of the Royal Palace at Kensington, and the work was carried out by Messrs. Ernest George & Yeates. The British section was the only section ready on the opening day, although Britain was said to be so effete and behindhand. In regard to British exhibits we also held our own. Exhibitors from this country took 121 grands prix, 238 gold medals, 162 silver medals, 132 bronze medals, or 653 medals in all. This was an answer to those who took such a jaundiced view in regard to British craftsmanship. In regard to applied arts and fine arts we more than held our own. The building was far and away the best-constructed building on the site, and overtures were being made before Mr. Fletcher left St. Louis for its purchase as a clubhouse for students of the Washington University.

During the erection of the Exhibition buildings, 200 strikes impeded the progress, but in spite of this the enormous contracts were completed in less than three years. In comparing this exhibition with previous great international exhibitions, the thought occurred as to what might be learnt from this vast undertaking? This was especially so, as, owing to the enormous financial loss entailed, it was not likely that people would be found to put their money to such an extent into such undertakings. The enormous waste of these buildings might be obviated, to some extent, he thought. The Washington buildings and the Fine Art buildings will remain, and he thought it might have been possible to have designed some of the others so that at the end of the exhibition they might have been altered, perhaps, and used as hospitals, factories, or for other purposes —for permanent use, in fact. It was generally agreed by European critics that the Chicago Exhibition of 1893 was too vast to be satisfactory, and yet how much more did this apply to the St. Louis Exhibition, which was more than double the size? The fatigue of seeing the exhibition was enormous, and the glare of the buildings was such that one had to use smoked glasses. Each building alone was an exhibition in itself. To have seen every exhibit in the Agriculture Building would have entailed a promenade of over 9 miles, and had the authorities carried out the galleries as originally intended the result would have been worse. Perhaps one of the most surprising facts about this World's Fair was in regard to the inventive genius at the disposal of the American people, and about which we heard so much. It was surprising that so few efforts were made in this direction. The exhibition afforded opportunities for experimental architectural works, especially as the result was to be pulled down at the end, yet so thoroughly had the Ecole des Beaux-Arts carried away American architects that few could get away from its influence even in these temporary buildings. This great fetish was carried to such an extreme that Beaux-Arts clubs existed in New York and other cities. Such slavish copyism should surely be avoided. Of course, nothing could be invented in architecture, but we required no new alphabet in literature to prevent us expressing ourselves in the set style of any particular book, however classic its rendering.

The one prevailing idea amongst American architects was to make the buildings the biggest on earth; if they imparted a little more thoroughness and a closer study of detail into their work a more complete and harmonious creation might be the result. The model street was execrably paved; the hospital was placed next to the vibrating automobile shed, and to reach one of the entrances to the exhibition one was compelled to stoop under a railway track.

In conclusion, the lecturer said that one could not but admire the pluck and genius and the overwhelming energy which was bestowed on the exhibition.

Mr. H. T. Hare, in proposing a vote of thanks, said that they had all listened to the lecture with the keenest enjoyment. They could not but give credit to the Americans for the very extensive and wide grasp which they give to schemes of this kind, for in England we always seemed to deal with undertakings of this kind in a parochial sort of way. As to Mr. Fletcher's remarks as to the influence which Paris had exercised over the minds of American architects, those remarks were made in rather a depreciatory manner. While one sympathised with the idea Mr. Fletcher had in his mind, *i.e.*, that probably this influence had been so strong that it had killed any sense of originality in the design of the exhibition buildings, yet that idea might be carried rather too far. The influence of the Ecole des Beaux-Arts, and the Parisian feeling generally, certainly led to a very much larger and more comprehensive grip of a scheme of this sort than would be possible from the methods of training which obtains in England, and, in that sense he thought that that influence was not altogether to be deplored. It was gratifying to hear that one of the most successful of these buildings was designed by an Englishman, and he was sure that they could also congratulate the architects of the English Pavilion.

Mr. Edwin T. Hall, in seconding the motion, said that Americans seemed to think in such works in continents rather than in acres, and that being so, he was rather surprised that American architects had not imitated Roman rather than French works. One was rather surprised not to find something on the scale, say, of the Baths of Caracalla, or Hadrian's Villa, or some of the other huge structures of Rome. One would not have been surprised to see some such colossal structure, and it seemed strange that with their breadth of view the Americans did not possess the massiveness of their great Roman progenitors in art. Water schemes had always a great fascination, and water must have been a fine foreground to these exhibition buildings. The glare and dazzle must have been great, but that was part of the whole scheme, he supposed; the exhibition was to dazzle the world. As to the buildings themselves, though we recognised in them classical proportions, many of them were lacking in classical dignity. Many of the collonades were spoilt by features which seemed to be out of harmony and scale. The Transportation Building was a fine conception, and it suggested its purpose, but that could not be said of many of the buildings. He thought the German building was very ugly; and after seeing the quiet dignity of our building, we might rest content with its sensible and dignified artistic lines. When we undertook to build an exhibition, it was generally from 20 to 100 acres in extent, but in America they dealt with square miles.

Mr. A. O. Collard, architect of the Earl's Court Exhibition, said he wished that the son of Mr. Sidney Smirke, R.A., had been with them that evening, for he was the pioneer of exhibitions in America. He left his father's office many years ago, and roamed over the world and engaged in various occupations. He dabbled in architecture when he had the opportunity, and, finally, he was responsible for the great exhibition at Philadelphia. This was not generally known probably, for Mr. Smirke's was a retiring nature, and he had not done much work in England. At Earl's Court the difficulty was how to construct quickly and cheaply, and that was what the Americans could do. In London, however, if they tried to get the County Council to agree to wooden construction faced with plaster or left bare—that was done in some of the St. Louis Exhibition buildings—he was a little doubtful whether they would be convinced that it was safe. He had never yet been able to convince the Council that wooden construction for the buildings at Earl's Court, either naked or covered, was quite satisfactory. He was delighted to see what had been done at St. Louis in that way, for it would be another lever in his efforts with the County Council. It must not be forgotten that the Americans had the whole country at their back in the enterprise, and that they spent 10,000,000*l.*, and could have had more, and they had not had a penny of that money returned. In this country, unfortunately, dividends had always to be earned, and little on such a scale could be done.

The Chairman said that in regard to the colossal way in which American architects conceived their work, when one came to 30-story buildings in New York it was not only colossal, but monstrous. As to the large way in which American architects thought, he could point to an English architect of over 200 years ago who thought in a very much larger way than any American architect did. The design for Whitehall by Inigo Jones was not only colossal, but it was palatial in its design, and if it had been carried out it would have been not only a monument to Charles, but to the great English nation.

The vote of thanks having been heartily agreed to,

Mr. Fletcher, in reply, said he hoped they did not think that he wished to deny the efforts of French architects or the methods of education of the Ecole des Beaux-Arts. He was quite convinced that their system of education was far nearer the ideal one than that of any other European nation; but what he did say was —and he said it emphatically—that he did not think that if the sole result of studying at the Ecole des Beaux-Arts was to produce a mixture of reproductions of old buildings, that that was doing any good. Mr. Masqueray, who was a distinguished student of the Ecole des Beaux-Arts, did not reproduce fragments of old buildings, disjointed, but he gave them the Forestry and Game building, which was French in feeling, but Masqueray in design. He should be sorry if they thought he was speaking against the education of the Ecole des Beaux-Arts. As to the suggestion of a Roman *motif*, it was a fine idea, but would it not mean that the whole exhibition would have had to have been designed by one architect? If so, that would not go down in the States, and he doubted if it would in England.

The Chairman announced that the next meeting would be held on the 20th inst. when papers would be read on "Decorative Painting" by Sir W. Richmond, Mr. Alfred East, and Mr. Solomon J. Solomon.

The meeting then terminated.

LOW SIDE WINDOWS IN ANCIENT CHURCHES.

AT a general meeting of the Royal Archæological Institute of Great Britain and Ireland, held on Wednesday, last week, at No. 20, Hanover-square, the Rev. H. Bedford Pim delivered a lecture, entitled "Some Notes on the Origin and Use of Low Side Windows in Ancient Churches." Sir Henry Howorth presided.

Mr. Pim said, so far as he could gather, the subject had not been before the Institute since 1847, when a well-known paper was read by Mr. Parker. He had looked carefully through the subsequent literature, and found it was nearly all characterised by somewhat servile copying of what was written before. Until the last ten or fifteen years there had been no attempt to collect instances of these low side windows and to classify them. His object was not to venture on an explanation which would meet every case; the variety of size, the varied situations in which they are found, and the dates of insertion made it most unlikely that they could all have been used at any time for one common purpose. He hoped that the lecture would lead to some attempt at classification of the windows and openings, and that the result would be that they would be able to draw some conclusions as to some of the many uses to which they might have been put. He did not intend to follow chronological order, but to deal with them with regard to the situations in which they were placed. Proceeding to deal first with windows and openings in what might be called the usual position, the chancel, Mr. Pim gave a large number of limelight views of churches where such windows exist. At Clapham, Sussex, the western of these lancets is lower than the other two, and similar windows, he said, are common in Sussex and Northamptonshire. The window was dropped lower than the others which light the chancel, and he thought that obviously such an arrangement must have been intended to let in light on the book for the priest in choir office. On the north side of the chancel at Clapham Church there is a similar window, which was no doubt to give light to the clerk. At Siston, Lincolnshire, and Herriard, Hants, were similar arrangements. At Bracebridge, Lincs., is a similar arrangement,

but the window was not lowered so much. Windows of another type, but for the same purpose, are found at Ringstead, Norfolk, and Boothby Pagnell, Lincs. One of the questions they had to settle with regard to windows of this type was what was the character of the glass which filled the windows in the chancel. Many of the windows were of date before stained glass was common, and if the glass was not so transparent as we now get it, it would explain the necessity for more light being provided by the use of low windows. At Chalk Church, Kent, there was a doubt, for the low window had a grating, and Gedney, Lincolnshire, was rather a puzzle to him, for there were three large windows in the chancel. The low side window was of somewhat later date, and he felt that the glass must have been poor, and had necessitated the making of the small window to give light in the particular place to the priest. In his second class he placed those low side windows which were placed exactly underneath large windows in the chancel, and which examples were Cowley, Dallington, Wheathampstead, and Claybrook. He felt that although placed under large windows, they were also constructed to give the priest more light. His third class comprised windows in the chancel lowered and transomed. At Garsington, Oxon, there was a transom across both lights, and a similar example occurred at Eynsford, Kent, while at Orton Longueville, Hunts, they found a three-light low window placed below a larger two-light. His fourth class comprised those windows which were placed in close juxtaposition to the priest's door, and he felt that their use must have been connected with that door. A well-known case was that of Rustington, Sussex. At Upton, Northants, the window was absolutely alongside the door, and a further example was to be found at Polebrook. At Alwalton, Hunts, they found the window filled with a memorial, but that certainly was not its original purpose, and the example, usually described as Norman, at Hincksey, Oxon, he certainly thought gave proof that the window was for lighting. In his fifth class he came to a large number of low side windows found in the south side of nave or aisles, but almost all of them were on the border line between the chancel and the nave, and they were almost always in churches of one continuous width from end to end, and of Early English date. He suggested that these windows were used to light the altar, which was so often placed against the chancel or rood screen, on either side of the central door. A remarkable illustration of this was found at Caythorpe, Lincolnshire, where were two windows side by side in an odd position under a large window in the south wall of the nave. One must certainly have been used to light the altar inside, and the other might have been used for a similar purpose. West Tanfield, Yorks, had been regarded as unique, inasmuch as it was described as a window piercing a buttress. Here again they had a chancel very little narrower than the nave, and as it would be impossible to place an altar in the space between the south wall and the jamb of the chancel arch, they enlarged the wall outwards to obtain the necessary space, so what was described as a buttress was really a very small chapel. In the space which was thus obtained the altar was placed, and the windows were put in to light it. Coming to his sixth class—those windows which existed in the west end of the aisle or nave—a famous example was to be seen in the west wall of St. Mary's in the Castle at Dover. Here they had documentary evidence that the window was pierced through the west wall of the church immediately opposite the door of entrance to the tower used at one time as a guard-room, and it was mentioned that men were told off to look through this window to see if the light over the soldiers' altar was burning. Mr. Pim also referred to west end windows at Bracebridge, Dartford, Tansor, and Aldwinkle. In class seven he came to those windows which must have been connected with tombs and burials, and it was Mr. Hodgson's contention that this was the common origin and use of all such windows. He was not of opinion that Mr. Hodgson had solved the problem, and certainly his theory could not be a universal explanation. That a good many of these odd openings were used for lighting tombs he had no doubt, but he did not think that explanation would apply to all. At Great Addington, Northants, he felt that the window must have been put in to light the tomb of the Greens, and at other churches, such as St. Michael's (St. Albans) and at Cogenhoe, the windows were probably used for the display of votive lights. At Stoke Dry is a window pierced through a chancel wall to allow the light over the altar to shine on the tomb in the south chapel. This was done in 1590. His last class presented a series of puzzles. At Dersingham the window must have been of about the same date as the window above, and whether it was put in for additional light he did not know. At Melton Constable the window was said to have been used for confessional, but he did not agree. He felt that the seats inside were what were commonly called return stalls for the priest. At Coombes, Sussex, also he thought the window was put in to light the return stall of the priest. At Weekley there were two little windows only 1½ in. wide, and these may possibly have been put in for the light from inside the church to fall on the graves outside. There is a much larger window in a similar position the S.W. angle of a transept) at St. Giles, Northampton. At Grafton Underwood are two tiny slits similar to those at Weekley, but at the extreme east end of the south wall of the chancel and about 7 ft. up. He would say one word about the shutters which were connected with many of these windows, and it was—why should they not have been placed for ventilation? His view was that these windows were used, firstly, for lighting the priest when reading the book in the chancel or serving at the altar in the nave; secondly, for the purpose of letting the light out of the church for votive lights; and, thirdly, for ventilation.

Considerable discussion followed the reading of the paper.

Mr. Keyser could not agree with the lecturer's conclusions, but believed that the windows were placed to enable people outside to see something within the church. In ninety-nine cases out of one hundred they could see the figure of Our Lord under the chancel arch or screen.

Mr. St. John Hope felt that the theory put forward that the shutters were used for communicating lepers would not hold good, and rather favoured the idea that the shutter was opened when the sacring bell was rung, so that it could be heard outside.

The Chairman offered what he described as a fantastic theory that in some cases the windows might have been used for throwing a light on the churchyard paths.

Mr. Pim, in reply, pointed out that he had not put forward any theory as to a universal use of these windows, but believed that they were used for various purposes.

CARPENTERS' HALL LECTURES: THE LIVERY COMPANIES AND THEIR HALLS.

THE third of the present series of the Carpenters' Company's spring lectures on matters connected with building was given at Carpenters' Hall, London Wall, E.C., on Thursday last week, when Mr. C. Welch, the City Librarian, gave an illustrated lecture on "The Livery Companies and their Halls." The Lord Mayor presided.

Mr. Welch said that the origin of the companies was a mystery, but in some cases they dated back to Anglo-Saxon times. That, at least, was the case with two guilds, *i.e.*, the Saddlers and the Weavers. It was not easy to decide whether the trade guilds were composed of London artificers or whether they had their origin on the social and religious side, with a connexion with trade developed at a later date. In either case the association of the guild and the craft must have been inevitable from the exigencies of London society at those early times. Besides the two guilds or companies, the existence of which he had already referred to, the early existence of many other guilds was similarly indicated. The lecturer then showed several illustrations of patron saints of the various guilds or crafts, and later on the charters of the companies. Proceeding, he said that at an early period some of the crafts had grown into powerful guilds, though up to the beginning of the XIVth century the commercial jurisdiction of the City lay with the Lord Mayor and aldermen. Subsequently the companies got the power of trade control largely into their own hands, but the grant of charters by Edward III. was soon followed by legislative control. The privileges and importance of the livery companies were greatly increased at the end of Edward's reign, and trade offences were punished with much severity. The lecturer, having shown amongst other illustrations William Caxton's quaint advertisement, which is to be seen in the Bodleian Library, proceeded to give an account of the corporate life of the companies, and showed a number of interesting illustrations, including the master's cap of the Worshipful Company of Carpenters, the loving and election cups, the pageants prepared by the various companies, hearse cloths, etc. Having referred to the chapels of the various companies, and to the fact that the only one now remaining was the Mercers', in Cheapside, in which services are now held, the lecturer said that during the reign of Henry VIII. the companies were compelled to advance large sums of money and also under Mary, while they were required to keep arms and ammunition at their halls, and some actually kept an armoury. The companies were at their lowest fortune in 1666 after the great fire, but that calamity nevertheless called forth great energy on the part of the various guilds, and soon the various halls were rebuilt in greater sumptuousness than ever. Among other points mentioned by the lecturer were the influence of the companies in the development of Londonderry in Ireland, and their good work in providing almshouses for their aged poor. One pleasant feature of the old halls was the garden which many of them possessed, and which were very beautiful places. Until quite recently there were two of these beautiful oases of the city left, *i.e.*, the gardens of the Grocers' and the Drapers'. The halls of the companies were not only of great use to the companies themselves, but they were often lent to the citizens for various, and sometimes curious, purposes. The lecturer showed a fine series of illustrations of the companies' halls, both ancient and modern. In speaking of the Ironmongers' Hall he said that recently there was some fear that this beautiful hall was to be taken down to give place to a new one, but he was glad to say that the hand had been stayed for a time. Another interesting set of illustrations showed rooms in the various halls in which the special commercial and business work of the companies was performed. Other illustrations showed the many works of art possessed by the various companies.

A hearty vote of thanks to the lecturer, and to the Lord Mayor for presiding, brought the proceedings to a close.

THE LONDON BUILDING ACT.

A LARGELY-ATTENDED meeting of citizens and ratepayers was held on Friday last week in the Guildhall, E.C., to consider the London Building Acts (Amendment) Bill which is being promoted by the London County Council. The Lord Mayor presided, and was supported by the Sheriffs, Sir J. Dimsdale, M.P., Sir E. Clarke, K.C., and a large number of well-known architects, surveyors, and builders.

The Town Clerk read a letter received from the Hon. A. Gibbs, M.P., in which the writer expressed his regret at being unable to be present at the meeting, and said he had given notice of his intention to move the rejection of the Bill on the second reading.

The Lord Mayor, addressing the meeting, said he had summoned the citizens in order that they might have an opportunity of taking combined action in the name of the City of London in opposition to the London Building Acts (Amendment) Bill, which was being introduced into Parliament at the instance of the London County Council. In every ward of the City, without exception, meetings had been held and resolutions passed in antagonism to that most objectionable measure. The London Chamber of Commerce had also condemned it with no uncertain voice. In every borough of the metropolis, save one, the same opposition prevailed; and all the professional bodies, with expert knowledge of the subject, were equally opposed to a measure which, if carried as it stood, would inflict hardship on every man of business in London. It was not that the City of London, or other bodies, had any objection to increased facilities for saving life from fire. The Corporation was, in fact, promoting a Bill with that object, and its only opponent was the London County Council. The London Building Acts (Amendment) Bill was a measure of such intricacy that it was almost incomprehensible. The London County Council, however, had not asked the opinion or advice of any of the authorities of the districts affected.

Sir Joseph Dimsdale moved the first resolution, as follows:

"That this meeting of citizens and ratepayers of the City of London is of opinion that the London Building Acts (Amendment) Bill, now being promoted by the London County Council, will seriously interfere with the rights of property, will injuriously affect the development of enterprise in the City of London, and will cause grave interference with and disturbance to the trade thereof; and in view of the gravity of the results to be anticipated therefrom if passed into law, xpresses its strong disapproval of the measure."

He said that the Parliamentary Committee of the London County Council unanimously recommended the Council to withhold the promotion of the Bill until 1907. The citizens had before them, he added, a Bill which was practically unintelligible. It was a semi-private Bill to amend two semi-public measures, the Acts of 1894 and 1898. Those two Acts contained no fewer than 700 sections and sub-sections, and four schedules; while the Bill under discussion possessed 400 sections and sub-sections, and two schedules. The result was that the Bill was practically unintelligible—at least, to the lay mind. That must lead to immense delay and interminable litigation. The questions dealt with in the Bill were of the first importance not only to the City, but to the whole of the metropolis, and one would have naturally thought that its promoters would have deemed it their duty to have consulted with the Corporation, the borough councils, the Architects' and Surveyors' Institutes, and others whose interests were affected. If passed the Bill would vitally affect property in every part of London, and it would jeopardise the position of trustees, the position of public bodies, and existing contracts. To give one instance out of many, the Committee of the Stock Exchange in their petition pointed out that, if the proposal of Clause 15 were sanctioned, owners of property in Throgmorten-street would, if they raised their buildings, be compelled to give up land to the value of 350,000*l.*, and not a single farthing would be paid in compensation. Another result of the Bill becoming law would be the enormous responsibility that would be cast upon the landowner so far as the City was concerned. With regard to the safeguards against fire, the proposals in the Bill, if carried into effect, would place enormous financial responsibilities on property owners. So far as the City was concerned, the Corporation had already a Bill to meet this important matter, and he believed that that Bill was not seriously opposed by anyone but the London County Council.

Mr. Delissa Joseph, who seconded the motion, gave some instances of the unreasonable character of the Bill. One clause provides that no new building shall be increased in height beyond the previous height of the building formerly occupying the site unless the owner gives up to the public way a strip of land for re-widening the street without compensation. Another clause provides that any addition to an existing building at once constitutes it a new building, and makes it subject to all the new restrictions. The stringent provisions of Clause 97 gives the Council the right to call for such staircases and passages as in their opinion might be necessary, and are retrospective and apply to old and new buildings alike; and by reason of the reduced height clause, the buildings to which they apply will probably involve the bulk of the office, shop, and warehouse premises in the City. Clause 32 provides that part only of land required for widening shall be purchased by the Council, without their being required to purchase the whole site, as provided by the Land Clauses Act, and enables them to avoid paying the 10 per cent. usually added for compulsory purchase. There is a clause prohibiting buildings of the warehouse class upon any site upon which dwelling-houses abut, unless the warehouses be curtailed as if they were dwelling-houses. The new Act proposes also to enlarge the definitions of a domestic building in certain cases, so as to include office buildings. It proposes to define a high building as one of which the floor of the uppermost story is 50 ft. from the street level instead of, as at present, 60 ft. No adequate case had been made out by the London County Council for the Bill as it now stood. It was claimed by the members of that body that the Bill facilitated means of escape from buildings in the case of fire, but, in answer to that contention, he wished to point out that only about one-tenth of the whole number of clauses in the Bill dealt with the question of fire escape. The Bill, as had been pointed out, had been condemned by the unanimous voice, not only of the City, but of the metropolis. The Borough Councils met in conference, and, with the single exception of Chelsea, unanimously condemned the Bill. As a matter of fact, if the fire clauses were allowed to stand, it would practically mean the rebuilding of London. At the same time he realised that the time was ripe for a new Act. So far as the question of providing adequate means of escape from buildings not under the Factory Acts was concerned, the Bill promoted by the Corporation was admirable, simple, and inexpensive. What, he asked, was the keynote of the L.C.C. Bill outside the fire provisions? It was a Bill which contemplated the carrying out of public improvements by a policy of confiscation—as a perusal of the clauses would show. It proposed to interfere with the rights of property, and disturb the inviolability of contract. If they were to have a new Bill, let it be a consolidation Bill without reference and re-reference. The L.C.C. Bill might have been drafted with the best possible intentions, but what was wanted was a consultation between all the public bodies interested, in order that the whole complex question might receive the most careful inquiry, a consolidation Bill being drafted which would be welcomed as being the outcome of the best intelligence on the subject. The effect of the present Bill was to make the County Council paramount, and the result of the Bill would be to paralyse business, block enterprise, check the employment of capital, involve a reduction in the employment of labour, and generally affect the security of investment and contract. The City of London had, indeed, been treated as if it was composed of green fields, and no regard had been had to the extraordinary and unique position occupied by the City of London. In the previous Bill the City was exempted from many clauses, and the unique position the City occupied was recognised; but by one insidious clause in the new Bill the whole of those exemptions had been taken from the City. The Bill stood self-condemned, and, being badly drafted, produced without consultation with the local authorities, unworkable, inequitable, and confiscatory, should be withdrawn.

Mr. Davis, rising from the body of the hall, moved an amendment expressing satisfaction at the action of the London County Council in promoting a Bill with the object of preventing fire and loss of life, and adding that any modification of the Bill which might be reasonably necessary should be done by arbitration through the surveyors of the Corporation and the surveyors of the London County Council, with a view to the peaceful settlement of the question.

The amendment having been seconded,

A show of hands was taken, when only three were held up for it. The original resolution was then carried with practical unanimity.

Mr. Felix Schuster proposed: "That, in the opinion of this meeting, any proposed alterations or amendments to the London Building Acts should be submitted to the local authorities before being presented to Parliament." He said that the Bill had met with the opposition of all the trading and commercial interests. Some of the most important financial houses and several of the largest banks had found it essential to lodge a petition against it.

Mr. Walter Emden, in seconding the resolution, said that the London County Council appeared to forget that the matter was of a highly technical nature; and that they had no one really capable of dealing with so important a subject. The late Act stood for over sixty years because it was drawn properly, and every possible assistance was obtained. Now there were the '78 Act, under which buildings were controlled by the London County Council; the Public Health Act of 1890; and the 1894 Act of the London County Council. That was a most unreasonable state of affairs. It was necessary to bring the various Acts into line, and make one single measure, which could be understood. In the provincial boroughs it was possible to send in one set of plans, and have them examined and approved in a fortnight. The London County Council, however, had at least three committees, to each of which it was necessary to send a set of plans, while afterwards it was necessary to proceed to the local authority and submit the plans. That was most objectionable. Why could they not have the power to deal with buildings as easily as was the case in the country? They had as much knowledge and as much information in London, with possibly less time to spare. The duties of the London County Council should only be those of a central authority. It was absolutely necessary that there should be codification. Then there was another point. Had the County Council shown themselves to be the best authority to bring in such a Bill? He did not think so. In that particular measure they proceeded to exempt themselves from the most onerous clauses. Did they show they were going to consider the matter justly? The County Council were not constituted to deal with such a matter. It required to be placed in independent hands, where the best technical knowledge was available.

The motion, being put to the meeting, was carried unanimously.

Colonel W. B. Burch, chairman of the Associated Owners of City Properties, moved: "That copies of the foregoing resolutions be forwarded to the Corporation of London, the London County Council, and the representatives of the City in Parliament; and the Corporation be requested to continue to offer a strenuous opposition to the Bill."

The motion was seconded by Mr. H. D. Searles-Wood and heartily agreed to.

Sir Edward Clarke, in proposing a vote of thanks to the Lord Mayor for presiding, said that he agreed with Sir Joseph Dimsdale that the Bill was one which it was difficult for business men, and even for lawyers, to understand. The County Council had adopted a very good plan for preventing, so far as they could, any criticism from lawyers, because there was a clause to exempt from the operations of the Act the properties of Lincoln's Inn, the Middle Temple, the Inner Temple, and Gray's Inn. He supposed the Council hoped, in that way, to pacify the lawyers. But though he was a lawyer, he was less interested in Lincoln's Inn than in the City of London, and so he had come to associate himself with them in making what he hoped would be an effectual protest against any further progress with this unhappy Bill. The Bill was as badly drawn as a Bill could be upon a subject which required clearness in the first place, so that property owners and business men would be able to look at the statute and understand what were their obligations. He thought that no one would be able to dispute the authority of that large and representative meeting to speak for the City in this matter.

The meeting shortly afterwards terminated.

THE LONDON MASTER BUILDERS' ASSOCIATION.

THE 33rd annual general meeting of the London Master Builders' Association was held at Nos. 31 and 32, Bedford-street, Strand, W.C., on the 23rd ult., when the report of the Council for the year 1904, and the audited accounts and balance-sheet, were received and adopted.

The meeting gave instructions and powers to the Council to confer with the trade unions with a view to improve the present working hours arrangements.

A hearty vote of thanks was given to Mr. J. Carmichael for the able and successful manner in which he discharged his presidential duties during the past year.

The following officers were elected for the ensuing years, *i.e.*:—

President.—Mr. Fredk. Higgs.
Vice-Presidents.—Messrs. J. W. Lorden and William Higgs.
Treasurer.—Mr. F. L. Dove.
Hon. Auditor.—Mr. A. B. H. Colls.
Council.—Messrs. C. Ansell, G. Appleton, F. S. Bywaters, G. Bird Godson, F. Maitland May, A. W. Turnbull, Howell J. Williams, L.C.C., F. P. Rider, F. Ruddle, and H. J. Shelbourne.

The following paragraphs are taken from the annual report:—

The work and influence of the Association are steadily extending, and during the past year your Council has been instrumental in adjusting many trade matters of importance. The number of members has increased, but the burden of protecting our interests in the metropolis is still borne by too few, and, to remedy this, members are urged to exert themselves to increase the membership of the Association. Forms of application, etc., can be obtained from the secretary.

No trade disputes of any moment have occurred during the year. The Conciliation Boards have frequently met to deal with questions raised by the workmen's societies. In every case your representatives have carefully guarded your legitimate rights and checked any strained interpretations being put by the workmen's representatives upon the working rule agreements. The Association has defended all cases involving principles where members of the L.M.B.A. have been sued by workmen backed by their trade unions.

Applications were received from the Engine and Crane Drivers' Society and Labourers' Societies for the formulation of working rule agreements, but your Council, after careful consideration, declined to accept the propositions. The agreement entered into by the National Federation of Master Builders, the National Association of Master Plasterers, and the National

Association of Operative Plasterers was the result of your Council's action. Copies of the agreement have been forwarded to members.

All Bills before Parliament affecting the building trade have been carefully watched, and action has been taken when necessary. Mr. William Shepherd, as the representative of the L.M.B.A., gave evidence before the Royal Commission on Trade Disputes and Trade Combinations, and his evidence will be published in due course in a Blue Book. Your Council is indebted to Mr. Shepherd for his valuable services.

Your Council desires to express its thanks to Mr. Henry Holloway, J.P., who, as the representative of the L.M.B.A., gave evidence before the Departmental Committee appointed by the Home Office to inquire and report—

(1) What amendments in the law relating to compensation for injuries to workmen are necessary or desirable; and,

(2) To what classes of employment (not now included in the Workmen's Compensation Acts) those Acts can properly be extended with or without modification.

Mr. Holloway's evidence will appear in due course in the Blue Book containing a report of the investigation.

With a view to the removal of an injustice from which builders and contractors have long suffered, a deputation from your Council waited upon the Metropolitan Water Board and suggested that the supply of water for buildings in course of construction should be regulated on the following lines:—

1. That the charges for water for building operations should be based on the amount of water actually consumed, and not on a percentage of the cost of the building, as at present.
2. That in all cases the consumer shall have the option of supply by meter, the meter to be of a standard and reliable character.
3. That the water charges should be uniform throughout the metropolitan area.
4. That the amount charged per thousand gallons should not be more than that charged for other manufacturing purposes.

The Chairman promised that the views of the deputation would receive the careful and sympathetic consideration of the Water Board.

Your Council was invited by the L.C.C. to express its views on the London Building Acts (Amendment) Bill. The matter was referred to the Parliamentary Committee, which, in conjunction with the Parliamentary Committee of the Institute of Builders, lodged a petition in Parliament against the Bill.

Though your Council failed last year to come to terms with the trade unions in regard to alterations in the winter working hours, the question has not been shelved, as is evidenced by the notice of motion on the agenda for the annual general meeting. Your Council attaches great importance to this matter, and trusts that the Association will strongly support whatever policy it determines to adopt.

The financial position of the Association has been greatly improved since the introduction of the new method of subscription, and there is now a substantial reserve fund.

ARCHITECTURAL SOCIETIES.

NORTHERN ARCHITECTURAL ASSOCIATION.—Under the auspices of the Northern Architectural Association, Mr. W. H. Wood (of Messrs. Oliver, Leeson, & Wood), delivered at the Y.M.C.A. Buildings, Newcastle, recently, a lecture on "The Design and Construction of Newcastle Cathedral." Mr. J. Walton Taylor presided.—In the course of his remarks Mr. Wood said that the Cathedral tower was of Scottish form, of which there were only four other known examples—St. Giles's, Edinburgh, King's College, Aberdeen, one at Linlithgow, and another in London, which was by Sir Christopher Wren. St. Nicholas' was the most elegant example of the set, and was done by an architect of consummate skill. It was 204 ft. high to the top of the centre vane. It had been the subject of repairs at various times, the first recorded being in 1645, a year after the siege of the Scots, whose general threatened to destroy it, and was only prevented from doing so by the ready wit of the Mayor, Sir John Marley, who placed the chief Scottish prisoners on the top of the tower. It was also repaired by Sir Gilbert Scott in 1868, who put in entirely new foundations and did a lot of tying up, necessary for the big arches to carry the lantern. It was last repaired in 1895 by Messrs. Oliver, Leeson, & Wood, when portions of the pinnacles were re-built and the vane re-made.—Mr. Plummer announced that further subscriptions amounting to 20*l.* had been received towards the permanent premises fund. That made about 60*l.* since the last meeting.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.—A special meeting of this Society was held on the 2nd inst. in the Society's rooms, Leopold-street, Mr. T. Winder presiding, when Messrs. A. W. S. Cross, M.A., and George Hubbard, F.S.A., of London, read papers on the proposed statutory registration of the architectural profession. They dealt with the various objects sought for in connexion with the proposal—the better education of the architect, the treatment of unworthy members, and the improved status of the profession. The responsibility of the architect in connexion with the health and safety of the general public was sufficient reason for the promotion of an Act of Parliament (now being drafted by the R.I.B.A.) to prevent the untrained and incompetent practising upon the ignorance or credulity of the building public. The result would be greater confidence of the public in the ability and integrity of the profession, and lead to better work and a better understanding between client and architect. The various proposals of the draft bill were also named and commented upon.—A discussion followed, in which Messrs. E. M. Gibbs, J. R. Wigfull, W. H. Hale, C. M. Hadfield took part. On the motion of Mr. T. Winder, seconded by Mr. E. Holmes, a hearty vote of thanks was accorded Messrs. Cross and Hubbard.—On the motion of Mr. J. Smith, seconded by Mr. W. C. Fenton, it was resolved that the Society again affirm the necessity for the statutory qualification of architects, and trusted that a satisfactory bill would be put forward as soon as possible.

Fifty Years Ago.

ARCHITECTS AND DECORATORS.—It should, when inquired into, be obvious that it is an erroneous position for one to be in, to have the design of the plan and of the outside of a building, and to be generally warned off from the interior; for, even where the architect is disposed to attempt that for which we say he would be best qualified, but for which some say he is unfitted—the fancy which people have that the paying for a thing gives the right to indulge "a taste," counteracts all his aims and undertakings. A trading class of decorators is naturally more subservient, and *art* suffers.

Interior decoration is neglected as a study simply because in the present state of taste the knowledge would seldom do much for the architect, either in reputation or in another way. The position of the department of architecture referred to, however, is, that whatever it may *not* lose by supposed inability of individuals, the general art loses much, and the subordinate branch the very elements of all good art, which the training of one whose ideas are ever grounded on structure could best supply.—The *Builder*, March 10, 1855.

COMPETITIONS.

CARNEGIE LIBRARY, NELSON. The Town Council of Nelson have appointed Mr. G. H. Willoughby, F.R.I.B.A., of Manchester, as assessor in this competition. More than 200 designs have been sent in.

Illustrations.

THE PALAZZO IMPERIALE, GENOA.

THE drawings of this building and its decorations are by Mr. Harry Morley, a student of the Royal College of Art, South Kensington, and are selected from the drawings for which the Council of the Institute of Architects awarded to their author, this year, the Owen Jones studentship.

Mr. Morley sends us the following notes in regard to the building and the illustrations:—

"The Palazzo Imperiale, Genoa, was built in 1560 by Bergamasco, and is situated in the small Piazza Campetto. The surrounding buildings are so high and close to the palace that it is now impossible to obtain any effective view of the elevation with its beautiful stucco modelling; but this has not always been so, as the word 'Campetto' means a small field, and the dedication of the parish church to 'Our Lady of the Vines' suggests that the surrounding land was at one time open. Over the atrium, which is entered directly from the Piazza, is the decorated ceiling. The ornament is painted on a white ground in 'fresco secco,' and is framed up with enriched plaster mouldings The method of design, with curiously stopped bands of colour, seems peculiar to the neighbourhood of Genoa, but an earlier example of this device may be seen in some of the Loggie of the Vatican.

"The colour is light in effect and is now toned with a slight greyness which is probably due to age; but the colour seems to have suffered very little and there are few traces of restoration.

"The ceiling generally is attributed to Bergamasco, but the panel representing the feast of the gods is said to be by Luca Cambiaso, and in fact shows a much more accomplished handling than the other panels."

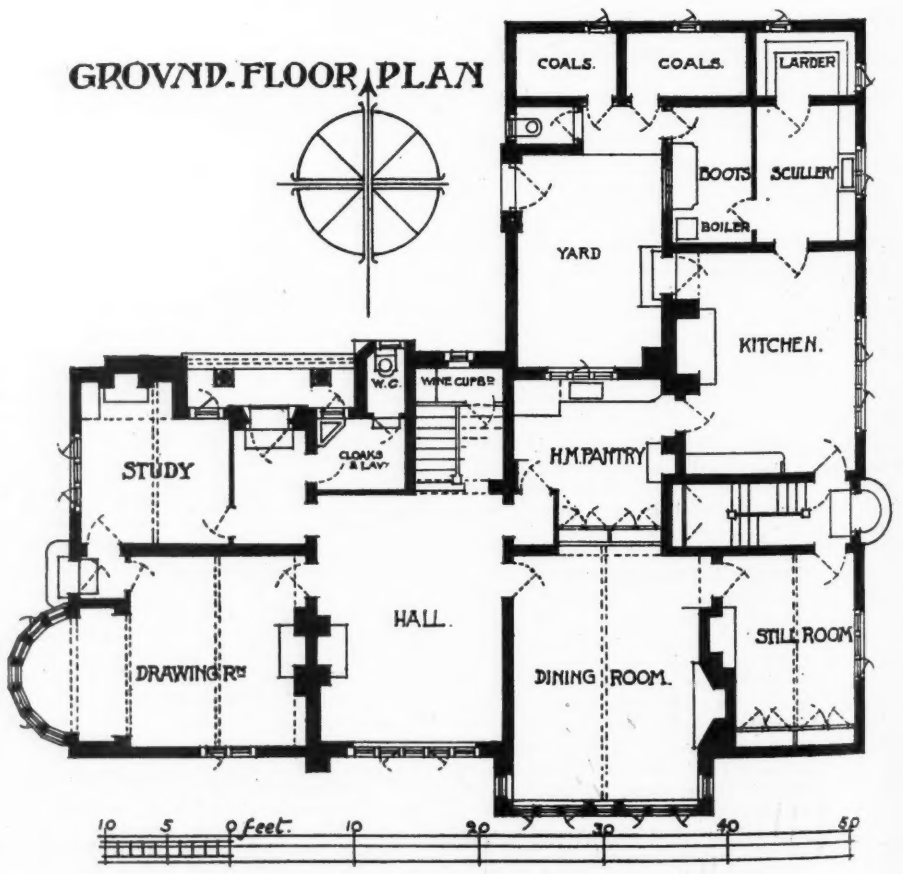
A PAIR OF HOUSES.

THE drawing, which was exhibited at last year's Royal Academy, shows a design for two semi-detached houses intended to be built of local stone and rough-cast, with bays and bands of a dark grey stone.

The architects, Messrs. Freeman & Ogilvy, have not preserved the plan, as the houses were eventually carried out on a different design.

HOUSE AT RUGBY.

THIS very picturesque drawing, like the last-



House at Rugby. Plan.

named, was exhibited at the last Royal Academy exhibition.

The annexed plan shows the general arrangement of the house. Mr. J. W. Simpson is the architect.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. J. Williams Benn, Chairman, presiding.

Loan.—On the recommendation of the Finance Committee, it was agreed to lend Lambeth Borough Council 1,483*l.* for paving works.

Holborn to Strand.—On the recommendation of the Improvements Committee, it was agreed that the design presented to the Theatres and Music Halls Committee on 22nd February, 1905, for the elevation of the theatre to be erected on land belonging to the Duke of Bedford at the junction of Aldwych and Drury-lane, be approved, subject to the Aldwych elevation of the premises being constructed in Portland stone.

Mortuary, Avondale-park.—The following recommendation of the Parks Committee was agreed to:—

"That the Council of the Royal Borough of Kensington be informed that the Council protests most strongly against the action of the Borough Council in erecting a mortuary upon a part of Avondale-park, and, without prejudice to the question of the removal of the building, requires the Borough Council to separate the mortuary from the park by suitable fencing, to screen the building on the park side by planting suitable trees, and to acquire, and add to the park, land equal in area to the lands occupied by the mortuary and set apart in connexion therewith, such acquisition and such works to be subject in all respects to the approval of the Council."

The Crane Accident in Aldwych and the Building Act.—Mr. Dew asked the Chairman of the Building Act Committee whether his attention had been called to the accident at Aldwych, when a crane snapped and two men were injured. Had the Council power under the London Building Act to inspect cranes, and if not, whether these powers would be sought for under the proposed new Act, so as to protect workmen.

Captan Hemphill, Chairman of the Committee, said that the Committee had had the matter before them, and they considered it of such consequence that they propose to bring up a report to the Council next week; the accident was caused by a defect in a metal casting. There was no power under the present Act for the Council to control such machinery, but power was being sought under the amending Bill—power to appoint an inspector to examine such machinery and also to inspect and control it.

Mr. E. Collins asked the Chairman whether it was proposed to withdraw the amending Bill, seeing that there were about 80 petitions against it. There was no prospect of passing the Bill.

Captain Hemphill said the question was one for the Parliamentary Committee. The number of petitions against a Bill was no evidence of the real opposition, for some petitions were merely in regard to a single clause.

Votes of Thanks.—This being the last meeting of the Council before the statutory annual gathering next week,

Mr. Yates moved a vote of thanks to Mr. Benn for his able, courteous, and impartial conduct in the chair of the Council during the past year.

Mr. Sidney Low seconded the vote, which was accorded, and Mr. Benn replied.

On the motion of Mr. Granville Smith, seconded by Mr. Harvey, a vote of thanks was passed to the Vice-Chairman, and Mr. Cornwall briefly replied.

A similar vote was, upon the motion of Mr. H. R. Taylor, seconded by Mr. Greenwood, passed to the Deputy-Chairman, Mr. Alderman Alliston.

Working-class Dwellings.—Mr. Hubbard moved, in pursuance of notice, that, having regard to the extent to which the demolition of dwellings for the accommodation of persons of the working class has been, and is being, effected by owners of private estates in the County of London, without provision being made for other suitable accommodation in lieu thereof, it be referred to the Housing of the Working Classes Committee to consider and report whether the Government should be asked to promote legislation for the amendment of the Housing of the Working Classes Act, 1903, so as to extend to the owners of private estates the obligation which, by section 3 of the Act, rests upon local authorities, companies, or persons, to rehouse working-class persons displaced through the acquisition of land under statutory powers.

Mr. Horniman seconded the motion, and said that Chelsea was at the present time suffering greatly from the demolition of working-class dwellings.

The motion was supported by Mr. G. Dew, Mr. J. Lewis, Mr. Bruce, Mr. B. Cooper, and Dr. Cooper, and was carried by a large majority.

The Council soon afterwards adjourned.

APPLICATIONS UNDER THE LONDON BUILDING ACT, 1894.

THE London County Council at their meeting on Tuesday dealt with the following applications under the London Building Act, 1894. The names of applicants are given between parentheses:—

Lines of Frontage and Projections.

Hampstead.—The retention of a porch at No. 10, Boundary-road, Hampstead (Mr. F. S. Hammond for Mr. Furber).—Consent.

Wandsworth.—Eight houses on the western side of Thrale-road, Wandsworth, between Ribblesdale-road and Nimrod-road (Mr. A. W. Gosden).—Consent.

Hammersmith.—That the application of Messrs. B. T. and W. J. Flexman for an extension of the period within which the erection of one-story shops in front of Nos. 350, 352, 354, and 356, King-street, Hammersmith, was required to be completed, be granted.—Agreed.

Westminster.—Two iron and glass shelters at the Imperial Theatre, to abut upon Tothill-street and Dartmouth-street, Westminster (Messrs. E. Keeling, Teale, & Co., Ltd., for Mr. L. Waller).—Consent.

Dulwich.—Bay windows, porches, wooden cornices, and sham half-timber work to ten semi-detached houses on the north side of Burbage-road, Dulwich, westward of the entrance to the London County Athletic Grounds (Mr. W. Griffiths for Mr. J. Watson).—Consent.

Haggerston. — Projecting porch, steps, quoins, pediment, and cornice to a building, upon the site of Nos. 225 and 227, Hackney-road, Haggerston (Mr. G. H. Lovegrove for the Gladstone Radical Club).—Consent.

Hammersmith.—One-story additions in front of the Latymer and Godolphin school, Iffley-road, Hammersmith (Messrs. J. Dorey & Co., Ltd., for the Board of Governors of the school).—Consent.

Hampstead.—A pent over the front entrance to a proposed cottage at the North-Western Hospital, Fleet-road, Hampstead (Mr. W. T. Hatch for the Metropolitan Asylums Board).—Consent.

Holborn.—A projecting clock at No. 11, John-street, Bedford-row, Holborn (Mr. F. R. Cooper for the Royal Oak Benefit Society).—Consent.

Holborn.—That the application of Mr. P. N. Ginham for the Education Committee of the Council, for an extension of the periods within which the erection of the Council's Central School of Arts and Crafts and London Day Training College, upon a site abutting upon Southampton-row, Orange-street, and Fisher-street, with projections, was required to be commenced and completed, be granted.—Consent.

Wandsworth.—Buildings on the north-eastern side of Longley-road, Tooting, eastward of No. 181 (Mr. H. Cusden).—Consent.

Westminster.†—A balcony at a block of office buildings on the north side of Tothill-street, Westminster, eastward of the Imperial Theatre (Mr. J. S. Gibson for Messrs. Holloway Brothers, London, Ltd.).—Consent.

Lewisham.—Buildings on the east side of Bromley-road and south side of Sangley-lane, Catford (Mr. A. W. Osborn for Mr. J. Watt).—Consent.

Woolwich.—An additional story over a one-story shop at No. 98a, High-street, Plumstead, with an iron staircase at the rear, to abut upon Mineral-street (Mr. A. L. Guy for Messrs. Pearks, Ltd.).—Consent.

Kensington.—One-story shops upon part of the forecourts of Nos. 50, 52, 54, and 56, Church-street, Kensington (Mr. W. G. Hunt).—Refused.

Hackney, South.†—Buildings on the north side of Marsh-hill, Hackney, to abut upon Pincey-road, Trehurst-street, and Adley-street (Mr. A. Armstrong for Mr. A. E. Simpson).—Refused.

Hampstead.—A house upon a site abutting upon the southern side of Fawley-road, and western side of Crediton-road, Hampstead (Messrs. Boehmer & Gibbs for Mr. E. Walker).—Refused.

Hampstead.—An iron and glass covered way at No. 14, Buckland-crescent, Hampstead (Mr. J. P. Hamilton).—Refused.

Lambeth, North.†—A projecting sign at No. 235, Westminster Bridge-road, Lambeth (Mr. T. L. Wood for the Chinnery Patent Sign Company).—Refused.

Width of Way.

Kensington, North.—Formation of a manure-pit and an alteration to the boundary fence at the rear of No. 87, Ladbroke-road, Kensington, at less than the prescribed distance from the centre of the roadway of Boyne Terrace-mews (Mr. E. W. Marshall for Mr. E. Davis).—Consent.

Paddington, North.—Two water-closet buildings in the area of No. 13, Cambridge-place, Paddington, abutting upon Market-street (Mr. W. H. Smith for the Humber Company, Ltd.).—Consent.

Paddington, North.—A boiler-house at St. Mary's Hospital, Praed-street, Paddington, with external walls at less than the prescribed distance from the centre of the roadway of Francis-street (Messrs. Dolby & Williamson).—Consent.

Kensington.—A smoke hole at the rear of No. 44, Newburn-street, Lambeth, with external walls and boundary fence at less than the prescribed distance from the centre of the roadway of Orsett-street (Messrs. J. A. J. Woodward & Sons for Mr. D. Carroll).—Consent.

St. Pancras, East.†—Permission to retain a wood and glass covered way at No. 142, Camden-road, St. Pancras, abutting upon Rochester-square (Mr. G. Cox for Mr. W. Radcliffe).—Refused.

Width of Way and Lines of Frontage.

Hampstead.—The retention of greenhouses on the north side of College Villas-road (Mr. F. Debenham).—Consent.

Woolwich.—Additions to the Woolwich Polytechnic, Lower Market-street, Woolwich (Messrs. Monckton & Gillespie for Mr. Ogilby and the Governors of the Woolwich Polytechnic).—Consent.

Formation of Streets.

Wandsworth.—That an order be issued to Mr. E. S. Trehearne sanctioning the formation or laying out of new streets for carriage traffic on the Templeton House Estate, Priory-lane, Roehampton, and in connexion therewith the widening of portions of Priory-lane, and the lane on the northern side of the estate.—Agreed.

Woolwich.—That an order be issued to Mr. F. Bethell, refusing to sanction the formation or laying out of new streets for carriage traffic on the Bostall Estate, Bostall Hill, Plumstead (the Royal Arsenal Co-operative Society, Ltd.).—Agreed.

Deviations from Certified Plans.

Finsbury, Central.—Certain deviations from the plans certified by the District Surveyor, under sections 13 and 14 of the Act, so far as relates to the proposed erection of a one-story workshop at No. 46, Brunswick-close, St. John-street-road, Finsbury (Major C. E. Dance for the Marquess of Northampton).—Consent.

Space at Rear.

St. George, Hanover-square.—Residential flats on a site abutting upon Buckingham Palace-road, Eccleston-street and Eccleston-street East, St. George, Hanover-square, so far as relates to cellars being placed under the central yard of the buildings and also to the floor of the air duct or passage connecting the yard with the inner area being raised (Messrs. Read & Macdonald for Messrs. Holloway Brothers).—Consent.

Working-class Dwellings.

Greenwich.—A dwelling-house to be inhabited by persons of the working class, and proposed to be erected, not abutting upon a street, on a site at the rear of No. 92, The Stowage, Deptford (Mr. J. Webster for Messrs. May & Roberts).—Refused.

The recommendations marked † are contrary to the views of the local authority.

TOWN HOUSE SCHEME, ABERDEEN.—A sub-committee of the Finance Committee of the Aberdeen Town Council met recently for the purpose of considering the plans which have been prepared by the Burgh Surveyor for the reconstruction of the Town House. It is proposed to extend the Town House as far as the premises of Messrs. M'Killiam, in Broad-street. It is also proposed to acquire the Advocates' Hall buildings. The requirements of all the departments have, it is stated, been provided for. A remit was made to the officials to inquire into the cost at which the property could be purchased. It was also remitted to Mr. Dyack to make the necessary amendments on the plan, and bring them up at another meeting of the Committee. The scheme, it is stated, will involve a cost of about 100,000*l.*

ENGINEERING SOCIETIES.

THE SOCIETY OF ENGINEERS.—At a meeting at the Royal United Service Institution, Whitehall, on Monday evening, the 6th inst., Mr. N. J. West, President, in the chair, a paper was read on "The Transport Possibilities of our Inland Navigable Waterways," by Mr. Benjamin H. Thwaite. The author commenced by observing that the creation of the inland located manufacturing industries of England and the development of our agricultural industry would have been impracticable but for the inland navigable waterways provided by our transformed rivers and canals, the inception of which he traced to King Henry I., and for the construction of which Parliamentary powers were obtained. To the work of the canal engineers, Brindley, Jessop, Telford, Vermuyden, Rennie, and others, and the constructional efforts of the River Conservancy Boards, the author attributed England's possession of a magnificent system of water carriage by which the agricultural areas were connected with the manufacturing centres and the seaports, by which means the development of England's industries surpassed those of France and Spain. One of the effects of the Railway boom in the forties, during which no fewer than 272 Railway Acts were passed, was to almost extinguish the interest of statesmen in our canals, and Parliament by its indifference almost invited the policy of astute railway administrators in attempting to secure the control of the canals that were local traffic carriers and rivals. As a result of that policy, the railway companies absorbed no fewer than 50 canals of more or less importance. Modern statesmen and the public realised from the arguments advanced in favour of the Manchester Ship Canal in 1884-5 that the railway policy of obtaining canal control was entirely against the interests of the trading and industrial community, and, as a result, an Act of Parliament was passed in 1885 to check the canal control propensity. But the Act after all was only an example of the *ex post facto* policy—it came too late. Some of the railway companies have altogether suppressed their canals, parts of which have been converted into railways. The Great Western Railway had relinquished its control over a group of canals, and under more sympathetic control the trade upon them was becoming prosperous. A comparison was drawn by the author between the canal policies of the Governments of Germany, America, and France, which was much to England's disadvantage. The waterways and railways of Germany were State-owned, and the Government was continually extending the lengths and carrying capacities of the canals. Owning, as the German State did, both systems, was a proof that the canals were serviceable to the State, otherwise they would have been abandoned. But the author pointed out that money was to be appropriated to their further development, besides which the railway rates were stated to be 25 to 50 per cent. lower than those of British railway companies. The French Government had used the State-owned canals to check the charges for transport of the privately owned French railways, and the canals were maintained in a high state of efficiency. The author set forth the *primâ facie* economic advantages of water carriage compared with those of railway transport in different countries. Even in comparison with the lowest American rates, canal transit costs were stated to be lower, and it was said that the advantage would be increased by the electrification of the canals. Various methods of canal haulage were compared, to the advantage of the electrification principle. According to the author, our existing navigable waterways possess immense potentialities of good for the benefit of our agricultural and staple industries.

THE INSTITUTION OF CIVIL ENGINEERS.—At the ordinary meeting on the 7th inst., Sir Guilford L. Molesworth, K.C.I.E., President, in the chair, it was announced that twelve associate members had been transferred to the class of members, viz., Messrs. C. Brownridge, H. Deans, B.A. (Cantab.), W. Emmott, A. Fidler, A. P. Griffiths, B.Sc. (Paris), H. Japp, L. P. Marshall, H. F. Peet, E. van Putten, J. R. Settle, R. C. Sikes, B.E., B.A. (Royal), F. Wood. It was also reported that nine candidates had been admitted as students, viz., A. S. Ash (London), S. O'G. Cotton (London), F. L. Creswell (London), H. W. Hague (New Parkside, South Australia), K. Newton (London), W. P. Schütte (London), E. I. Spiers (London), A. Trewheler (London), G. B. Underhill (Canterbury). The monthly ballot resulted in the election of five members, viz., Messrs. A. M. Henshaw (Stoke-on-Trent), J. S. Highfield (London), G. C. Kenyon (Liverpool), R. B. Morison (Riversdale, Cape Colony), E. Wakeford (Sheerness). Thirteen associate members, viz., G. H. Blacklock, B.A. (Cantab.), (London), W. H. P. Brounger, Stud.Inst.C.E. (Grangemouth, N.B.), C. R. Carr, Stud.Inst.C.E. (Twerton-on-Avon, Bath), R. L. Colbourne, Stud.Inst.C.E. (Lyallpur, Punjab), T. G. Dempster, B.Sc. (Glas.), (Pollokshields, Glasgow), R. P. Hadow, Stud.Inst.C.E. (Malakwal, Punjab), C. I. Hutton, Stud.Inst.C.E. (Insein, Burma), A. D. Jaffé, B.A. (Cantab.), (Chorlton-cum-Hardy, Manchester), F. M. Lawson, Stud.Inst.C.E. (Bristol), H. T. MacLeod, Stud.Inst.C.E. (London), F. H. Matthew, Stud.Inst.C.E. (Gateshead), A. Trewby, B.A. (Cantab.), Stud.Inst.C.E. (London), R. E. Workman, B.Sc. (Glas.), (Manchester). One associate, viz., T. W. Stuart (Liverpool).

BOOKS RECEIVED.

OLD HOUSES IN EDINBURGH.—PART II. Drawn by Bruce J. Home. (S. Bagster & Sons. 1s.)

CONSTRUCTIONAL STEELWORK. By A. W. Farnsworth, A.M.Inst.M.E. (Charles Griffin & Co.)

MANCHESTER SOCIETY OF ARCHITECTS SKETCH BOOK. Parts I. and II. Edited by the Sketch-Book Committee.

GENERAL DESCRIPTION OF SIR JOHN SOANE'S MUSEUM. Eighth Edition. 6d.

Correspondence.

THE LONDON BUILDING ACT (AMENDMENT) BILL.

SIR,—Thanks are due to you for the very able comment on one of the petitions against the Bill, but you rather miss one important point when you urge the payment of district surveyors by salary instead of by fees.

These officers have been statutory officers, bearing the same name for over sixty years, and payment by salary would alter their status and make them officers of the Council.

The work varies so much in each district that it would be difficult to settle the salary, while the present system secures payment in proportion to the work done. I would ask your readers to consider the matter from three points of view:—

1. Officials of public bodies start at a certain salary, increased each year, and retirement is followed by a pension for life.

2. The Council proposal would give a fixed salary and retirement without a pension, so that many a man might be ruined by the increase of work in his district and be left to starve while still active and strong.

3. The Metropolitan Board of Works appointed surveyors in accordance with the Building Act, and gave a small district with leave to carry on private practice, thus securing first-rate architects of experience to take the appointments. The present system of the Council will secure young and inexperienced men just able to pass the examination, or men under fifty who have been unsuccessful. As years roll on the candidates will grow worse and worse, and nobody of any position will be found to enter the lists. Compare the names of the candidates even now and, say, thirty years since. ARCHITECT.

"STRUCTURAL TIMBER TESTS."

SIR,—I wish to thank you for your very kind notice of Circular No. 32 of the Bureau of Forestry (see "Notes," page 56 *ante*). I note, however, that there has been some slip in one statement in the editorial, where it says:—"It is also shown that, when the proportion of moisture exceeds 25 per cent., ultimate strength diminishes rapidly with every increase of the proportion." The statement in Circular No. 32, page 13, is:—"After the moisture has been reduced to nearly 26 per cent., the strength begins to increase upon a further reduction of moisture." From this it may be inferred that any addition of moisture beyond 26 per cent. will not decrease the strength of the stick.

W. K. HATT,
Civil Engineer.

United States Department of Agriculture,
Bureau of Forestry, Washington.
Lafayette, Ind., U.S.A.,
February 24, 1905.

WALLASEY COMPETITION.

SIR,—With reference to this competition for municipal offices, does it seem fair that the Council should only exhibit the premiated designs and should refuse to publish the assessor's award? Surely there is no question that the comparison of the various designs and the publication of the award is of distinct advantage to the competitors.

One hears a good deal about the helping hand the R.I.B.A is supposed to offer to their members. Surely the assessor, as a late President, has sufficient influence to put a little of the Institute's preaching into practice, and induce the Wallasey Council to reconsider its decision and hold an exhibition in the usual manner. H. DIGHTON PEARSON.

*** We do not see that a committee is in the least bound to publish the assessor's award; it is a private document; but the exhibition of all the designs is very desirable.—ED.

The Student's Column.

TYPICAL STRUCTURES IN CONCRETE-STEEL.—X.

L'EGLISE DE SAINT JEAN DE MONTMARTRE, PARIS.

THE church of St. Jean de Montmartre, built for M. l'Abbé Sobaux, is a very remarkable example of reinforced construction, and, so far as concerns boldness of design, it probably has never been surpassed.

Owing to the fact that Montmartre is a thickly populated and poor quarter of Paris, it was necessary to build a large church at the lowest possible cost. Accordingly, M. A. de Baudot, architect to the archiepiscopal district of Paris, obtained three estimates for consideration, relating respectively to masonry, steel framed, and reinforced brick construction, the approximate cost of the three projects being:—(1) Stone masonry, 155,600*l.*; (2) steel framed construction cased in masonry, on the American system, 45,000*l.*; and (3) reinforced brick and cement construction, on the Cottançin system, 14,000*l.* After these estimates had been considered by the diocesan authorities, M. de Baudot was instructed to accept the last-mentioned.

We give in Figs. 72, 73, and 74 drawings which will serve to make clear the general character of this building. By reference to Fig. 74 it will be seen that the church is of irregular plan, the total length being 51 metres and the width across the nave and aisles 20 metres or not taking into account the small chapels and other projecting parts. The height of the outer walls is 35 metres, and the thickness of the reinforced brickwork of which they are built is only 11 centimetres (4⅜ in.). Support for the entire structure is afforded by cylinder foundations, in which are built, as described below, reinforced brick columns with a central core of concrete.

The building comprises two stories, one being the crypt, 10 metres high, and the other the church proper, 25 metres high to the top of the walls. The floor of the crypt is level with the tops of the cylinder foundations, the stiffening ribs and the cement slab of this floor connecting the whole of the foundations so that they form a complete structure. The reinforced brick columns are carried up through the crypt for the support of the church roof, and below the level of the upper floor they are provided with arched ribs, which form a vaulted roof to the crypt. In the church there are galleries and a balcony which are supported also by ribs springing from the columns.

The roof of the church is a system of flat domes formed of curved ribs of reinforced brick, with connecting layers of concrete 5 centimetres thick, the whole being reinforced with a reticulated system of steel bars woven in the manner generally illustrated in Fig. 69 *ante*.

Although the walls receive support in the first instance from the connected system of cylinder foundations, they are so tied together in every part, and so connected with the columns, floors, and roof, that they are self-supporting to a very great extent and are able to span considerable openings without intermediate piers or girders.

These are the main features of the structure, which, owing to the exceedingly daring character of its design, has somewhat undeservedly been designated as "la folie du siécle."

Turning now to the details of construction, we may remark that considerable difficulty was presented by the peculiar conditions of the site. Fig. 76 is a block plan by which it will be seen that the church of St. Jean passes between two buildings 20·62 metres apart, and, as the exterior width of the church at this

part is 20·22 metres, each of these buildings approaches within 20 centimetres of the church. Thus it was impossible to provide for extension of the footings or to strengthen the walls by means of external piers or buttresses, the space available being, in fact, barely sufficient for the width of the building itself.

Notwithstanding the inadmissibility of counterforts, it would have been quite practicable, if the nature of the soil had permitted, to form the foundations by supporting the structure upon a general platform consisting of a series of shallow steel-cored caissons, connected by reinforced brick ribs and a concrete-steel slab. This method is quite suitable for soils of low bearing power, as evidenced by the foundations of the depôt of the Compagnie Générale des Omnibus, described in a recent article, and also by that of the boiler-house in St. James's Park, Westminster, described in a previous Student's Column series.* But it is necessary that the ground should be uniform in character, even if of unstable quality.

In the case of the site at Montmartre, the subsoil consisted of nothing better than loosely-compacted quarry *débris*, exceedingly liable to form cavities of considerable size if any movement of the material took place. The difficult nature of the problem was further accentuated by the unfavourable profile of the site, which is sketched in Fig. 75. At the point C the level for the crypt floor was at 1·60 metres above the passage of l'Elysée des Beaux-Arts, which forms one boundary of the site. Then came a piece of comparatively level ground CA, and after it a slope AB, consisting of quarry *débris*, and next, at 12·00 metres above the passage of l'Elysée des Beaux-Arts, the Place des Abbesses on which the front portion of the church now stands. The ground plot as a whole rests upon a stratum of argillaceous gypsum, and the part between the points A and C was found to be traversed by deep fissures, descending in some cases almost to the level of the River Seine and filled with rubbish.

In consequence of these unpromising conditions, it was decided to construct a foundation platform of unequal depth to suit the varying quality of the substratum at different parts of the site. As stated above, the structure is carried on reinforced brick columns, the positions of which are indicated on the ground plan (Fig. 74). Beneath each of these points a well was sunk for the reception of a hollow cylinder of reinforced cement. After being completed, the cylinders were filled to the height of 8 metres with earth excavated during the sinking of the wells, and upon the filling of each a slab of reinforced cement mortar 5 centimetres thick was formed to close the cylinder at 4 metres below the surface and to form a column base-plate, the reinforcing bars of the slab being firmly connected with those of the cement-steel cylinder. Upon the reinforced panels the columns were built up, and then the upper part of each cylinder was filled with ordinary concrete. By adopting this system of foundation, although at the depth of 12 metres the ground was still composed of quarry refuse, the bottom of the cylinders was lower than the galleries of the disused quarries, and there was no longer any risk that dangerous cavities would be formed by shifting of the underground material.

At the distance of 30 centimetres below the top of the cylinders a triangulated system of reinforced brick ribs was built from cylinder to cylinder, and the reinforcing bars of these were connected with a network of steel extending over all the ribs, this network being embedded in a layer of cement mortar forming a continuous floor slab for the crypt. The ribs and slab together serve to connect all the cylinders, and thus a monolithic foundation was secured, representing a combination of the cylinder and the caisson systems. Further strength was obtained by securely tying together the reinforcement of the cylinders, the column base-plates, the columns, the ribs, and the floor slab, all these connexions being made during the execution of the cement, concrete, and brick work. The shallow parts of the foundation are quite adequate for supporting the light loads coming upon them, while the cylinders, forming cells of great depth, are able to withstand the heavy loads due to the main framework of the church. Moreover, as the tubular form possesses great resistance to stresses radiating from the centre, no forces acting in horizontal directions are communicated to the ground, and the great depth of the cylinders renders them safe against the effects of any slips taking place in the loosely compacted mass through which they pass.

The columns, commencing at 4 metres below the top of the foundation, rise first to the under side of the floor which covers the crypt, the sides of the column being parallel and perpendicular to the axis of the building. At the height of about 5·50 metres above the crypt floor curved ribs spring from the sides of the columns and pass from one column to another, as shown in Fig. 74. These ribs form the vaulted roof of the crypt. As the ribs are merely extensions of the columns, and as one neutralises the thrust of another, there is practically no lateral force calculated to cause flexure of the columns. Each column acts the same part as the pillar carrying the beam of a pair of scales, as the tower of a suspension bridge, or as one of the steel towers of the

* The *Builder*, vol. lxxxv., p. 526.

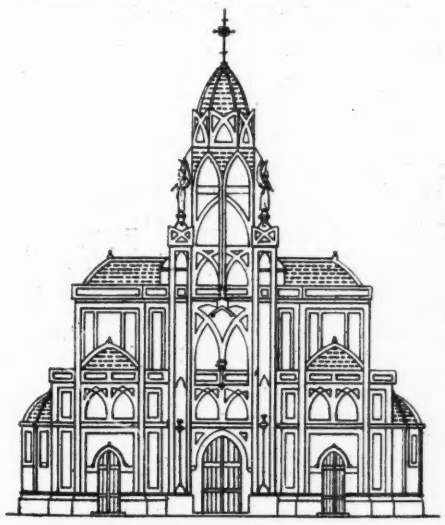


FIG. 72.

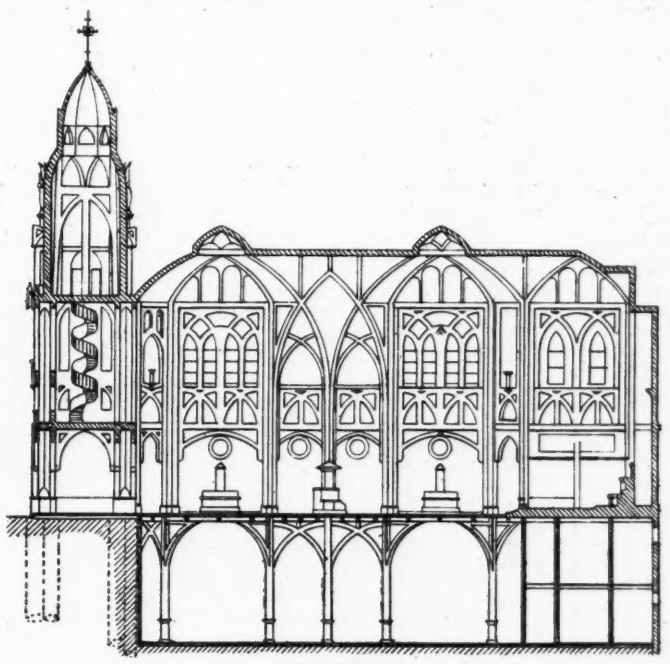


FIG. 73.

FIG. 75.

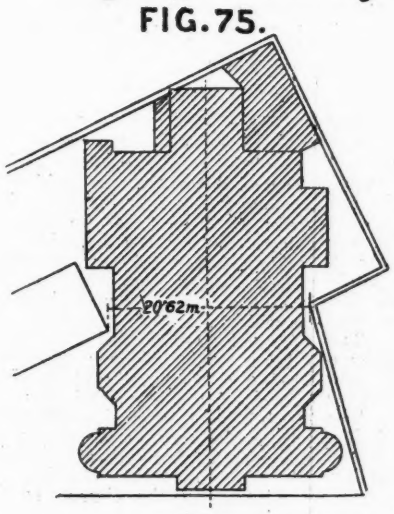


FIG. 76.

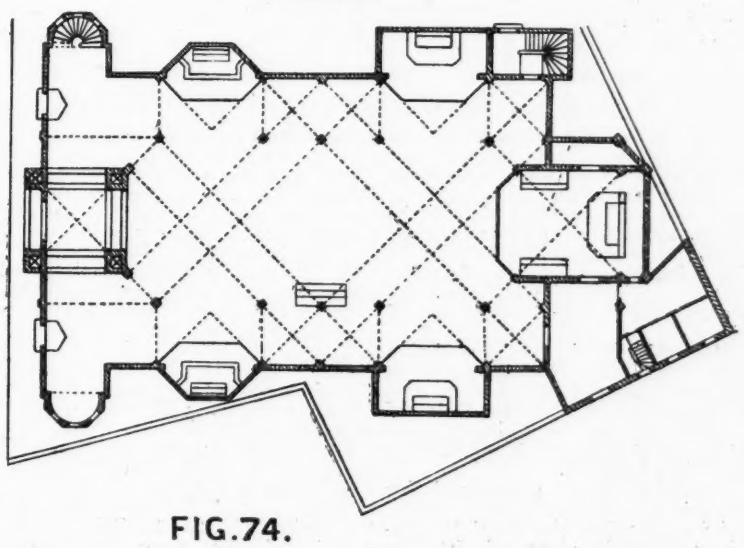


FIG. 74.

Illustrations to Student's Column.

Forth Bridge, supporting two cantilevers of equal length and weight. The result is that the column remains in compression and the forces tending to produce flexure are negligible. In the church above the crypt the columns take a turn of 45 deg.—that is to say, each column is twisted at the floor level so as to suit architectural requirements. In ordinary brickwork this treatment would be impracticable, and the result could not be satisfactory from the point of view of strength. In reinforced construction, as we shall show a little later, there is no difficulty of any kind.

The principle of branching out the columns is applied in the church on a far larger scale than in the crypt, and reference to Fig. 73 will show that the columns and their ribs, extending like the branches of a great tree, practically carry the greater part of the roof structure. In fact, their spreading arms are the ribs forming the framework of the domed roofing system. Thus it will be realised that the main idea of the construction we are now considering is that it stands on bases firmly rooted in the ground, the bulk of the weight is carried by stems stretching forth rigid yet elastic arms at different heights, the arms of the different stems being so tied and connected together by the intervening fabric that the whole group forms a single self-contained structure, getting no extraneous support save that of the ground on which it stands and in which it is rooted.

Next week we propose to give further details of the methods adopted in the design and construction of this interesting building.

COURT OF COMMON COUNCIL.

THE usual fortnightly meeting of the Court of Common Council was held at the Guildhall on Thursday last week, the Lord Mayor presiding.

London Building Acts Amendment Bill.—A petition was received from the City and West-end Properties, Ltd., the Consolidated London Properties, Ltd., and the Metropolitan Properties Company, Ltd., asking the Corporation to take such steps as they thought necessary to oppose the passing into law of this Bill. The petition was referred to the special committee appointed to consider the matter. The Town Clerk laid before the Court the resolutions passed at the various ward-motes against the Bill.

Bills in Parliament.—The Streets Committee submitted a report relative to a number of Bills in this session of Parliament. The Committee was authorised to oppose the following Bills, among others, if necessary:—Central London Railway, North-East London Railway, Great Northern, Piccadilly, and Brompton Railway (No. 2), Hammersmith, City, and North-East London Railway, Administrative County of London and District Electric Power Company, and Central Electric Supply Company. A number of other electric lighting Bills were included in the list. It was agreed to support the London County Council's London Gas Bill.

Embankment Tramways.—It was reported that a letter had been received from the Town Clerk of Camberwell enclosing a copy of a resolution passed at a Town's meeting held recently, in favour of the proposal of the London County Council to construct tramways across the Thames bridges and along the Victoria-embankment. Mr. A. H. Barber moved that the Bridge House Estates Committee should consider and report upon the subject, and this was agreed to.

METROPOLITAN ASYLUMS BOARD.

THE ordinary fortnightly meeting of the Managers of the Metropolitan Asylums District was held at the offices, Victoria-embankment, on Saturday last week.

Among the correspondence received from the Local Government Board was a letter authorising the execution of certain works for the purpose of lighting Belmont Asylum by electricity, and the provision of telephones and fire alarms, at a cost not exceeding the sum of 6,450*l.*

Southern Hospital.—On the recommendation of the Works Committee, it was agreed to apply to the Local Government Board for permission to invite tenders for the installation of proposed systems of electric lighting, telephones, and fire alarms at this hospital. The cost is estimated to be 9,000*l.*

Eastern Hospital.—On the recommendation of the Hospitals Committee, it was agreed, subject to the approval of the Local Government Board, to adopt the plans submitted by the Engineer-in-Chief, of the proposed new boiler-house, destructor, and chimney shaft at this hospital. The engineer's estimate is 4,100*l.*, including the extra machinery.

A revised scale of wages for artisans and certain other employees of the Board was submitted by the Asylums Committee, and agreed to.

OBITUARY.

MR. BRODRICK.—We announce with regret the death, at Gorey, Jersey, of Mr. Cuthbert Brodrick, at the age of 83. Mr. Brodrick gained, half a century ago, a high reputation for his fine design of the Leeds Town Hall, erected in 1853-8 at a total cost of about 130,000*l.*; it was opened by Queen Victoria on September 7, 1858. Of other buildings planned and designed by him we may mention the Town Hall, in Lowgate, Hull, erected in 1862-6, and illustrated in the *Builder* in the article on "Hull," one of our series, "Architecture of our Large Provincial Towns"; the Royal Institution, Hull; the Corn Exchange, Call-lane, Leeds, built in 1861-3 for the Corporation, and comprising fifty-six sets of offices, newsrooms, etc.; the premises of the Leeds Mechanics' Institute and Literary Society, in Cookridge-street, with library, fine art gallery, and a lecture hall, having a capacity for 1,200 persons; and the Oriental and General Baths, in Cookridge-street. Mr. Brodrick had long ago, we believe, retired from practice, and had, as we learn from the *Yorkshire Post*, resided for a good many years in France. His great building in Leeds will always rank as one of the best examples of the classical revival in England.

MR. FOWLER JONES.—Mr. George Fowler Jones, formerly of No. 8, Lendal, York, died, aged 87 years, at his residence, Quarry Bank, Malton, on March 1. He was elected a Fellow of the Royal Institute of British Architects in 1868.

MR. SCOTT.—Mr Robert Sinclair Scott, of Burnside, Largs, N.B., died suddenly at the Central railway station, Glasgow, on February 28, in his 62nd year. He was the second son of the late Charles Cuningham Scott, of Halkshill, and member of the firm of Messrs. Scott & Co., of Greenock, engineers and shipbuilders. Mr. Scott was Chairman of the Leeds Forge Company, and President of the Engineers' Federation of Great Britain. He leaves a widow and two sons.

MR. H. T. NEILSON.—Mr. H. T. Neilson, quantity surveyor, of Darlington, died at Saltburn recently, at the age of 59. He was a son of the Rev. Horatio Neilson, of North Witham, Lincolnshire.

GENERAL BUILDING NEWS.

CHURCH, LLANDILO FAWR, CARMARTHENSHIRE.—The parish Church of St. Teile was re-opened by the Bishop of St. David's on the 3rd inst., after the addition of a new organ chamber, and after being restored and renovated, from the designs and under the supervision of Mr. David Jenkins, architect, Llandilo. The general contractors were Messrs. Thomas Brothers, of the same town; contractors of specialities:—Messrs. Roger Lowe, Ltd., Farnworth, for the maple wood block flooring; Messrs. W. Godwin & Son, Hereford, for the encaustic and tessellated tile pavings; Messrs. Wake & Dean, Ltd., Yatton, Somerset, for the oak choir stalls; Messrs. Alfred Gardiner, Sons, & Co., Ltd., Bristol, for the brass altar rails and standards; Messrs. Williams & Son, Llandilo, for the cleaning, varnishing, and gilding work; Mr. D. Pritchard Davies, Llandilo, the installation of electric light; Messrs. Saunders & Taylor, Ltd., Manchester, the heating apparatus; Mr. G. Vowles, Bristol, the rebuilding of the organ. The aggregate cost was 2,500*l.*

CHURCH, HOWEY, RADNORSHIRE.—A new church was dedicated at Howey, in the parish of Disserth, recently. The new church is built of stone, and the dressings are in terra-cotta, by Mr. J. C. Edwards, Ruabon. The red steps are the Old Radnor Company's patent material, and the floor is in wood blocks, oak in the chancel, by Messrs. Geary, Walker, & Co. The roof is exposed timber work in pitch-pine, and the roofs are covered with tiles. The church consists of a nave, chancel, vestry, and south porch, and seats 100 worshippers. The division of chancel and nave is marked by a roof truss brought rather low down and finished on ogee brackets, resting on slender stone columns, with caps and bases. The church fittings, in fumed oak, are by Eaden. The contractor was Mr. S. A. Bounds, of Llandrindod Wells, and the architect was Mr. R. Wellings Thomas.

ALL SAINTS' CHURCH, GRIMSBY.—The new Church of All Saints, Grimsby, has just been dedicated. The nave has three aisles, and there are six arches on either side, whilst a baptistry opens into the nave by three other arches. At the entrance to the chancel is a wide arch flanked by two arches of less dimension, those on the north opening into the organ chamber, and those opposite into a side chapel. Choir and clergy vestries are under the east windows of the chancel. Seating accommodation has been provided for 700. The side chapel will accommodate forty-eight in addition to the 700 in the nave. The church is fitted with the electric light. At the west front a gable accommodates the bell. The walls are of red brick, the door and window openings being faced with Monk's Park Bath stone. The internal structural features are of Bath stone, and the walls covered with selenite cement. The church has been built by Messrs. Bowman & Sons, of Stamford, to the plans and specifications prepared by Messrs. J. E. K. & J. P. Cutts, architects, London.

BAPTIST CHURCH, SURBITON.—The new Baptist Church in Balaclava-road will seat 400, and has been erected by Mr. F. Hawkey, of Brighton-road, from designs by Mr. Alfred Mason. The cost has been about 2,550*l.*

NEW VESTRY AND ORGAN CHAMBER, ASHURST PARISH CHURCH, KENT.—The Parish Church of St. Martin, Ashurst, has recently had a new vestry and organ chamber built in the north-west side of the church as a memorial of the late Geo. Field, of Ashurst Park, the work being carried out at the instance of Mr. C. A. Morris Field, and the Hon. Mrs. Field, the architect being Mr. Geo. Fellowes Prynne, of Westminster, and the contractor Mr. Flint, of High Wycombe. The additions to the church have been carried out in sandstone, with Bath stone dressings.

NEW CHANCEL, ST. JOHN'S CHURCH, RICHMOND, SURREY.—The Lord Bishop of Rochester consecrated, recently, the new chancel and morning chapel of St. John's Church, Kew-road. The total cost of the extension has reached about 3,500*l.* The new portion of the building, which has been erected by Messrs. Dorey & Co., of Brentford, from designs by Mr. Arthur Grove, architect, consists of a chancel 28 ft. 6 in. long by 25 ft. 6 in. wide. The choir stalls being extended into the nave there is a total length of 40 ft. from the east wall to the chancel screen, and the chancel is lighted by two lancet and two clerestory windows. The morning chapel, 28 ft. 6 in. by 18 ft., is lighted by two windows. As to the scheme of decoration the only portion at present carried out is the series of paintings on the walls of the nave, depicting "The Stations of the Cross," by Mr. Westlake, R.A.

CHURCH HALL, PLAISTOW. — St. Mary's, Plaistow, new church hall has been erected at the London-road end of Farwig-lane. The building consists of a large hall, 72 ft. by 32 ft., which will afford accommodation for 400 persons. There are two classrooms, 20 ft. by 15 ft. 6 in. and 20 ft. 6 in. by 17 ft. respectively; a boys' club and a men's club, each 50 ft. by 28 ft.; a kitchen and other offices are also provided. The heating has been carried out on the hot-water system, and the electric-light installation in the large hall and classrooms has been executed by Messrs. Bishop, of Croydon, on behalf of Mr. T. D. Graty. The other rooms are lighted by gas. The hall and its adjoining rooms have been erected in accordance with the plans prepared by Mr. Ernest Newton and Mr. Arthur King, and the contract for the execution of the work was secured by Mr. T. D. Graty, Bromley.

RENOVATION OF R.C. CHURCH, BERWICK.—The scheme of reconstruction, which has been proceeding for some months past at St. Cuthbert's Roman Catholic Church, Ravensdowne, Berwick, has now been completed. Its original form has been preserved, but architectural effect has been obtained by heightening the ceiling, and by introducing three triple-light windows into the sanctuary. A sanctuary arch has been introduced. Its mouldings spring from triple shafts with carved decorated caps, while the spandrils are relieved by sunk tracery. The north wall, in which there are no windows, has been decorated by the introduction of an arcade of pierced wood tracery arches, rising from shafts carried on wood corbels. This treatment continues round the three sides of the apsidal sanctuary, and in the panels thus formed are inserted the three traceried windows. The gallery has been enlarged by being cantilevered out in the middle, in the form of a three-sided bay. The front is of wood, with cusped panelling. The work is from the designs of Messrs. Kelly & Dickie, architects, London, and has been carried out by Messrs. John Cockburn & Sons. The painting of the church is the work of Mr. John Crow.

BOARD SCHOOL, AYR.—The Newton Park School, erected by the Ayr School Board, has just been opened. The new building, which has been built from the design of Mr. John

Eaglesham, architect, Ayr, is of Ballochmyle red stone. The site occupies 3 acres of the southern part of the old Public Park of Newton. The main school is a two-story structure, having places for 840 children in six double standard rooms, with 120 places for each of the six standards, and three rooms, each to accommodate forty merit certificate pupils. In addition there are cookery-room, gymnasium, headmaster's room, and rooms for the teaching staff, as well as lavatories and cloakrooms for the children and the teachers. The infants' school is a one-story building having places for 250 pupils in five rooms. In each school there is a central hall. The two schools are grouped into one mass of buildings, and there is a staircase at the junction of the two schools which is carried up to form a square, open belfry or tower. A janitor's house has been placed at the west corner of the playground. There are playgrounds, latrines, and playsheds for the several divisions of the schools. The contractors were as follows:—Mason work, Wm Watson & Son; joiner work, David Milligan; cast-iron and steel work, J. Lindsay Copland; slater work, M'Ilwraith, Cowan, & Co.; plumber work, James Fraser; plaster work, Matthew Glen; painter work, J. H. Fulton; all of Ayr. The total cost of the school, exclusive of site, has been about 12,000*l.*

PROPOSED Y.M.C.A. BUILDINGS, CUPAR, N.B.—Plans have been prepared by Mr. Charles Soutar, architect, Dundee, for the proposed new premises of the Young Men's Christian Association at Cupar. The structure, on the ground floor, will comprise a hall, with cloakroom and lavatory accommodation adjoining for ladies and gentlemen; and on the upper floor two smaller halls, separated by a revolving partition, and a committee or reading room. The frontage to Ladywynd will be built of red terra-cotta brick, with a base course and facings of red Dumfriesshire stone.

NEW COTTAGE HOMES AT LANCHESTER.—New cottage homes for children have been built by the Guardians adjacent to the Workhouse at Lanchester. The new buildings, which face the main street running through the village, have been built by Messrs. Robson & Sons, of Esh and Waterhouses, from the designs of Messrs. W. Lister Newcombe & Son, architects, of Newcastle, while the work has been supervised by Mr. T. March, of Blaydon, clerk of the works. At present only two blocks of homes have been built, comprising two cottages each, and will accommodate sixty children, or fifteen boys and girls in each cottage.

PUBLIC HALLS, KINGSTON, GLASGOW.—The new halls at Kingston, which form a part of a scheme comprising the erection of a public library and police office, were opened recently. The accommodation provided is as follows:—A large hall to seat 1,000, a lesser hall to seat 350, a lower hall or buffet to seat 100, eight kitchens, two cloakrooms, a store for seats, and conveniences. The large hall, which is situated on the upper floor, is reached by a staircase, the walls of which are tiled, and the floors of the entrance-hall and landings are laid with terazzo. The galleries of this hall are built on the cantilever principle. The lesser hall is situated on the ground floor, and may be entered either from Paisley-road or the lane at the side. The buffet-room, cloakrooms, and retiring-rooms are placed in the basement. The whole buildings are heated on the low-pressure hot-water system, and the vitiated air is extracted from every apartment by means of two electrically-driven fans. The building is Renaissance in style. The preparation of the plans and the erection of the building have been conducted under the personal supervision of Mr. M'Donald, the City Engineer.

LIBERAL CLUB, PENRITH.—The new Liberal Club at Penrith was opened on Monday. On the ground floor are the caretaker's rooms and a coffee-room. Underneath these apartments are cellars containing the heating apparatus. A staircase, with pitch-pine balustrade, leads from the entrance-hall to the first floor, on which is a reading-room, a ladies' drawing-room for the use of the Women's Liberal Association, and an assembly-room for meetings and concerts and the like, which can be approached by a separate entrance. On the next floor is a billiard-room. Adjoining are lavatories; also a dark-room for amateur photographers. On the floor below there are a couple of bathrooms. In addition to the apparatus for heating, the various apartments contain tiled fireplaces. A suite of offices, with a separate entrance, form part of the building, which was designed by Mr. George Watson, architect.

WORKMEN'S HOTEL, BIRMINGHAM. — The erection of the new workmen's hotel at Birmingham has now been completed. The structure is modelled on the lines of the Rowton Houses in London, and is built of red brick, with buff terra-cotta dressings. The entire cost, with appointments, is about 62,000*l.* The building in its full length runs parallel with Highgate Park, and has its entrance in Alcester-street. Accommodation on the cubicle system is provided for 813 men. The building has wide forecourts on each of the frontages to Alcester-street, Moseley-street, and Highgate Park, and there is an inner courtyard, 90 ft. wide, which is open at one end. All the dayrooms used by the lodgers are above the road level in Alcester-street, and have an outlook over the park. Most of the interior walling is of cream and chocolate glazed brick. There are five floors of cubicles, each of which has its own window under the control of the lodger. The building contains a reading-room, measuring 2,503 sq. ft., smoke-room, and writing-room. There is also a library. The dining-room, on the right side of the main corridor, provides accommodation for 450 men. The walls are built with a high dado of cream and chocolate-tinted glazed brickwork, with plastering above, tinted to a shade of terra-cotta. Mr. H. B. Measures was the architect of the building, Mr. T. Johnson being the builder, and Mr. A. Yates the clerk of the works.

BANK, BRISTOL.—The new premises which form the Redland branch of Messrs. Stuckey's Banking Company are situated in White Ladies-road. The building has been erected at a cost of about 6,000*l.*, and is built of Monk's Park stone. The main doorway, on each side of which there are cast bronze tablets, is 7 ft. 6 in. wide, the height, from the pavement to the top of the pediment being 25 ft. On the ground floor is the banking hall, 45 ft. by 35 ft., with fittings of teak and Spanish mahogany, and at the rear are situated the manager's bookrooms, strongroom, lavatories, etc. The upper portion of the building is fitted for dwelling purposes. The premises are fitted throughout with electric light. The architects were Messrs. R. Milverton Drake & John M. Pizey, of Bristol.

CUSTOMS HOUSE, PORT TALBOT.—The new Customs House and shipping office at Port Talbot, which were recently opened, adjoin the Port Talbot Railway and Docks Company's general office in Station-road. On the ground floor the main entrance leads into a hall, having the shipping office on the left and King's warehouse and storeroom on the right. The side entrance, in Eagle-street, leads into the seamen's waiting-room, seamen's shelter, and seamen's yard. The first floor, consisting of the long-room, collector's office, book-rooms, and lavatories, is entirely self-supporting and fireproof, and is constructed of rolled-steel joists, overlaid with expanded metal sheets and cement concrete. The entire surface of the seamen's yard and main yard is laid with asphalt on a substratum of cement concrete. The engineer responsible for the building is Mr. W. J. Hosgood, Chief Engineer of the Port Talbot Railway and Docks Company. The contract has been carried out by Messrs. John Davies & Sons, contractors, Aberavon. The cost of the new building is 1,450*l.*

SANITARY AND ENGINEERING NEWS.

SEWAGE FILTER, WEDNESBURY.—The Wednesbury Corporation Sewerage Works Committee have issued a report by Dr. Bostock Hill on the results of analyses of the effluent from the new coal filter at the sewage works at Bescot. This states that the results were in every sense highly satisfactory, nearly every sample showing an improvement on the preceding one, and the worst result was a good one. The percentage of purification effected was probably as high as at any works under similar conditions in the country, and the Corporation, in view of the success of the coal filter already laid down, are recommended to proceed with extensions on similar lines. An object-lesson in the degree of purity obtained was the fact that fish which had been turned into the effluent were thriving there. Messrs. Dodd & Dodd, of Birmingham, are the Council's Engineers.

ELECTRICITY WORKS, CARNARVON.—The new electricity works at Carnarvon, which are situated between the harbour and the railway station, were opened a short time ago. The whole of the contract has been carried out for the corporation by the National Electric Construction Company, Ltd. The plant consists of two Davey-Paxman "Economic" boilers of 7,000 lb. per hour evaporative capacity; two Peache high-speed engines direct, coupled to two "Lancashire" 100 K.W., generating sets with balancer and booster; a Hart battery of 400 ampere hours capacity, and a 96 tube "Green" economiser. Cables have been laid along all the main thoroughfares with extensions into principal streets, and supply is arranged on the three-wire continuous current system of 230 volts. Fifty services have already been connected. The building, consisting of a boiler-house, engine-room, battery-room, offices, etc., is of a steel framework of vertical H-section stancheons and light steel roof trusses, the spaces between the stancheons being filled with a screen of brickwork, the floors being of concrete and expanded metal. The whole of the structure has been carried out by Messrs. Heenan & Froude, of Manchester and Worcester, under the supervision of Mr. S. Wilkinson.

WATER SUPPLY, WALLASEY.—New waterworks, consisting of a covered service reservoir, a tower with overhead tank, and the requisite mains, have been constructed at Wallasey for the purpose of providing that district with an extra supply of water from Liscard. The reservoir has a containing capacity of about four and a half million gallons. Without losing sight of the utility of the works, every effort has been made to evolve a structure which would not be an eyesore or a detriment to the surrounding property, and accordingly embankments suitably planted with shrubs have been formed. The tower is octagonal in form, and provided with a turret, within which is a winding staircase to a platform over the tank, which is 250 ft. from the sea level. The works have been designed by Mr. J. H. Crowther, Gas and Water Engineer to the Council, and the contract for the work was carried out by Mr. J. Gourley.

ELECTRICITY WORKS, BRIDLINGTON.—The new Bridlington electricity works were opened on the 2nd inst. The scheme, prepared by Mr. F. H. Medhurst, who was appointed consulting engineer, has cost about 30,000*l.* The buildings, designed by Mr. E. R. Matthews, the Borough Engineer, are situated in a central position close to Elms estate, between the old town and the Quay. Three cables radiate from the works to the different centres, and there are thirty miles of cables for all purposes. The street lighting consists of 410 incandescent lamps of varying candle-power, and thirty-two arc lamps. Sixteen of the arc lamps are 12-ampere open-type of 1,000 candle-power each, and the remainder 500 candle-power 3-ampere open lamps. The water which, in the process of excavation, interfered with the progress of the work has been collected by special drains into a large sump, and is used for feeding the boilers, thus avoiding the necessity for well-sinking. Another feature is the method of controlling the street lighting, the whole of which is switched on from the station.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENT.—Stuart's Granolithic Stone Company have removed their offices from 49, Deansgate, Manchester, to Great Bridgewater-street, Manchester.

SANDERS' ESTATE, DENMARK HILL.—At their meeting last week the Camberwell Borough Council agreed to vote a sum of 10,000*l.* towards the purchase of the Sanders' Estate which a local committee seek to acquire as an open space for the public benefit, under the name of Ruskin Park, in memory of John Ruskin, who passed the earlier years of his life in an adjacent house. The land consists of some 24 acres, with lawns and well-wooded grounds, lying on the western slope of Denmark Hill, and has a frontage of 1,000 ft. to the main road. The old detached houses and pleasure-grounds at Denmark Hill are gradually giving place to new roads and streets. The land round about is being sold at a high price; some ground adjoining the property in view has lately realised 5,000*l.* per acre, but it is stated that in the case of the Sanders' Estate Mr. Frank Trier's local committee, who are supported in their endeavours by the Commons Preservation Society, have succeeded in staying some contemplated building operations, with an option, to be exercised within a certain limit of time, of buying the property at the price of 2,000*l.* per acre; private contributions to the fund already amount to 4,300*l.* The new King's College Hospital will be erected on some ground contiguous to the proposed Ruskin Park.

SHEFFIELD MASTER BUILDERS' ASSOCIATION.—On the 28th ult. this Association held its annual dinner in the hall of the Builders' Exchange, in Cross Burgess-street, Sheffield. The chair was taken by Mr. A. Mastin, President of the Association, and he was supported by Alderman Wheatley, Alderman Jessop (Huddersfield), Mr. C. F. Wike (City Surveyor), Dr. Scurfield (Medical Officer of Health), Mr. A. Moulson (Bradford, President of the Yorkshire Builders' Federation), Mr. J. L. Taafe (secretary), and others. In proposing the toast of "The City and Trade of

Sheffield," Mr. A. J. Forsdike deplored the fact that the building trade was not more directly represented on the City Council. Possibly that was because the builders were too timid to enter into such a sanctum sanctorum, or else they were too much occupied in their own businesses. While the trade of Sheffield was at present not very good, they were able to congratulate themselves that there were signs of an improvement.—Alderman Wheatley responded. In relation to the increase of the salaries of some of their officials, he thoroughly deprecated the parrot-cry raised by some members of the Corporation as to highly-paid officials. Alderman Wheatley went on to say that he was opposed to so much direct employment of labour by the municipal authority. In his opinion the Council did not get the best results from some of its workmen. He was not referring to officials, but to the actual workmen. Very frequently some of the latter thought when they were employed by the Corporation they had dropped on a soft spot. Further reply to the toast was made by Dr. Scurfield.—Mr. Cook proposed "The National and Yorkshire Federation of Building Trade Employers." He described the present condition of conducting business as being largely due to the influence of the Federation. During a long spell of bad trade there had been no attempt to reduce the wages of their employees, but the aim had been to give a fair day's pay for a fair day's work. He hoped that strikes and lock-outs would soon be things of the past. The great advance in the principle of conciliation was largely due to the efforts of the National and Yorkshire Federations.—Alderman Jessop, of Huddersfield, ex-president of the National Federation, responded, and referred to several Bills affecting the building trade which were to come before Parliament. In the matter of the proposal to fix a minimum wage he contended that unless there were also stipulations as to a fair day's work such legislation would be altogether unfair. Mr. A. Moulson, of Bradford, also responded.—The health of the architects and surveyors of Sheffield was proposed by Mr. J. Biggin, who declared that the great need to-day in Sheffield in reference to building was not for houses for artisans who were well off, but for houses for the poorer class of people who only earned from 15s. to 20s. a week.—Mr. C. F. Wike replied, and congratulated the members of the Association on the fact that the condition of the building trade was likely to improve very shortly, as was shown by the plans deposited in his department. It was noticeable that thirteen large firms have given notification of extensions to their works.—Messrs. A. E. Turnell and G. R. Wigfull also spoke in reply to the toast.—"The Sheffield Master Builders' Association" was proposed by Councillor Dawson, of Huddersfield, and the President, Mr. A. Mastin, replied.—The toast of "The Visitors" was proposed by Mr. T. Roper, and responded to by Mr. J. J. Bingham.

BRIGHTON MASTER BUILDERS' ASSOCIATION.—The twelfth annual dinner of the Brighton Master Builders' Association was held at the Hotel Metropole, on the 2nd inst. The company, with guests and master builders, numbered some eighty. Alderman W. Botting, J.P. (the Chairman of the Association), presided, and the guests included the Mayor of Brighton (Alderman F. Blaker). The loyal toasts having been honoured, Mr. T. P. Harker proposed "The Corporations of Brighton and Hove." In responding, Alderman Blaker congratulated the Association upon the strength in which they found themselves. Speaking of the coming motor week, he said he knew of nothing that had taken place during the last few years which was going to tend more to create the popularity of Brighton than that week.—Councillor Cresswell, who also responded, thought the Brighton Corporation had now a splendid opportunity to turn the Aquarium into a winter garden—The toast of the evening, "The Association of Master Builders," was proposed by Mr. G. S. Godfree. He believed the Association arose out of the initiation or the inception of a strike that took place in Brighton some twelve years ago. He had no doubt the men who then struck, like the builders themselves, were pleased with the result and the outcome—that Association. Replying, the Chairman said the Association had two branches to it—the Master Builders' Association and the Master Builders' Insurance Company. At the present time they had plenty of funds for all they wanted. The Insurance Company had been exceedingly successful. They started without a penny-piece, and to-day they had 7,300*l.* odd from which to pay any claim that might be made upon them. Their income last year was 863*l.*, and the claims made came to 76*l.* Out of the 7,300*l.*, some 4,000*l.* had been invested on mortgage at 4 per cent. They had nearly reached 8,000*l.*, and when they did he thought that would be quite enough to protect them. They had settled up everything without litigation.—Responding to "The Visitors," honoured at the instance of Councillor Holloway, Alderman Marx facetiously observed that in the matter of bills builders outdid lawyers.—Councillor Wilson proposed "The Health of the Chairman," and Alderman Botting, in replying, thanked the committee for the excellent help they always gave him.

LLANDUDNO AND DISTRICT BUILDING TRADES EMPLOYERS' ASSOCIATION.—The annual dinner of the Llandudno and District Building Trades Employers' Association was held at Llandudno on the 23rd ult., Mr. Evan Hughes, chairman, presiding. Mr. H. Lever (Liverpool), chairman of the Lancashire, Cheshire, and North Wales Builders' Federation, who alluded to the necessity for organisation by the master builders in view of the perfection of the organisation of the workmen, though he disclaimed any aggressive spirit, thought the best way of settling disputes was by discusing the matters of difference amicably round a table. The "inter-trading" rule had largely increased the membership of the associations wherever it had been adopted. Under it members only gave or took tenders from those who were members of the local association or an affiliated association. On the question of insurance of workmen also the Federation had been of service, and the members had now practically an assurance in which they could have confidence.—Councillor J. O. Thomas, chairman of the Urban District Council, remarked that, notwithstanding the imposing and beautiful architecture of the more modern quarters of Llandudno, the work done by the original builders of the place, compared very favourably with it.—Mr. G. A. Humphreys, Lord Mostyn's agent, referred to the new building by-laws which the Council propose to issue, and remarked that some of them were not practical: but he hoped, with the assistance of the Association, the new code would be made quite reasonable and satisfactory in all respects before it came into operation.

BOURNEMOUTH MASTER BUILDERS' ASSOCIATION.—The seventh annual dinner in connexion with the Bournemouth and District Master Builders' and Decorators' Association was held at the Hotel Metropole, Bournemouth, on the 18th ult. The chair was occupied by the President (Mr. D. Drake), and among those present were the Mayor (Alderman J. Elmes Beale, J.P.), Messrs. W. G. Cooper (Chief Sanitary Inspector), F. P. Dolamore (Deputy Borough Surveyor), and T. Doggrell (Southampton Master Builders' Association).

THE LONDON BUILDING ACTS (AMENDMENT) BILL, 1905.—The Works and General Purposes Committee of Hackney Borough Council reported, on Monday, having passed the following resolution:—"That, in the opinion of this authority, the passing of the London Building Acts (Amendment) Bill, 1905, would, apart from its interference with the powers and duties of the metropolitan borough councils, tends to further confuse and increase the working difficulties of the present laws relating to streets and buildings in the Metropolis. In our judgment, the Bill should be withdrawn and a new measure introduced, consolidating into one Bill all the statutory provisions necessary for governing the formation of streets and buildings, simplifying the present laws, and relegating to the borough councils all duties which, in the opinion of Parliament, may properly be entrusted to them, and thus relieving the London County Council of some portion of the enormous burden of work cast upon it."

TEST OF A FIREPROOF FLOOR AT HALIFAX.—At the request of Mr. James Lord, Borough Engineer of Halifax, the Stuart Granolithic Stone Company, Ltd., of London, submitted to actual test one of the fireproof floors erected by them at the new Wesleyan Sunday School, King Cross, Halifax, under the direction of the architect, Mr. A. G. Dalzell, of Halifax. The portion of the flooring selected for the test, whilst not the largest area between supports, was undoubtedly the weakest in the building, a slab in an overhanging mezzanine passage, 9 ft. clear bearing, 3 ft. 6 in. wide, supported at each end by a 5 in. by 3 in. steel joist, and on the wall side by a 2 in. groove in the wall. The slab was put in during October, 1904, after the building had been roofed in. The slab was weighted with 3 tons 3 cwt. of cement in sacks, a net load of 2 cwt. per sq. ft., and the deflection at the centre of the slab on the outside edge under this load was one-sixteenth of an inch, and before the load had been half removed this deflection disappeared. As it was not desired to cause any distress in the slab the load was not further increased, but as the load applied represented more than double the probable future load, the test was deemed perfectly satisfactory. The test was superintended by Mr. Goldthorp, the Corporation Building Inspector, and was watched, on behalf of the contractors, by Messrs. Leslie, Munro, & Athol Stuart, Mr. A. G. Dalzell, the architect, also being present.

THE "RECK" SYSTEM OF HEATING.—Messrs. G. N. Haden & Sons (Trowbridge) write that they are the sole agents for the United Kingdom for this system of heating, Messrs. James Boyd & Son having control of the patents under Messrs. Haden's licence for Scotland and Ireland only.

PROPOSED CHURCH RESTORATION, RAMSGATE.—A public meeting was held recently at the Town Hall, Ramsgate, to consider proposals for the restoration of St. George's Church. Reports upon the condition of the church, prepared by Mr. W. D. Caröe, and Mr. S. H. Page, of Ramsgate, who is acting with Mr. Caröe in regard to St. George's Church, were submitted.

BRITISH FIRE PREVENTION COMMITTEE.—The Committee conducted a series of official tests on Wednesday. Amongst those present were:—Mr. Gavey, Chief Engineer, General Post Office; Mr. Redgrave, of the Home Office; and the Engineer from H.M. Office of Works. Mr. H. H. Collins represented the Council of the Committee, and the Chairman and Hon. Secretary, and several members of the executive were in attendance. The first test was with an asbestic brick plastered partition, 3 in. thick, intended to afford full protection, and with a 9-in. wall of the same special brick. The fire test of four hours was followed by the application of water through a steam fire engine. The second test was with polished and opaque wire-glass casements, intended to afford temporary protection. They were subjected to a fire test of three-quarters of an hour, followed by the application of water. The third test was with a thin 2½-in. slab partition, intended to attain the full protective classification for thin work of this description. During the course of the afternoon some private tests were also made with sprinkler heads, and with an automatic fire alarm system. The official reports on these tests will be issued in April.

CAPITAL AND LABOUR.

ABERDEEN PAINTERS' STRIKE.—The Aberdeen house and shop painters, numbering 250, came out on strike on the 1st inst., their demand for a standard rate of 8d. per hour and an advance on the country rate of pay being refused.

Legal.

SCAFFOLDER'S ACTION AGAINST BUILDER.

THE case of Coker *v.* Green came before Mr. Justice Darling and a special jury, in the King's Bench Division, on the 1st inst.—an action by the plaintiff to recover damages against the defendant for personal injuries sustained through the alleged negligence of defendant's servant. The defence was a denial of liability.

Mr. W. M. Thompson and Mr. Bowen Davis appeared for the plaintiff, and Mr. Montague Shearman, K.C., and Mr. Rowlatt for the defendant.

Mr. Thompson, in opening the case, said that the plaintiff was a scaffolder, and he sued the defendant, Mr. T. L. Green, a builder and contractor, for damages for personal injuries alleged to have been sustained through the negligence of the defendant's servant. The defendant was engaged in building a board school in Boundary-lane. At the time of the accident the building had been taken up to the third story. A great deal of ironwork was used, according to the modern American system, and girders placed in various places where the floors would be. Concrete floors were used in order to make the building fireproof. Then there was what was called centering—that was to say, boards were placed under the places where the concrete floor was laid. These were to sustain the concrete while it was hardening and getting set. The allegation in this case was that, at the time of the accident which occurred, the concrete was green, was made of improper materials, and was not sufficiently hardened to carry the necessary weight such as a safe and sound concrete floor ought to do. The plaintiff was in the employ of the defendant, the builder, and, on the day of the accident, his services were borrowed by the foreman of Mr. Pearson, the well-known manufacturer of lighting and heating apparatus, to help to hoist radiators

Mr. Pearson was putting in the various floors. These radiators weighed from 5 cwt. to 6 cwt. The plaintiff went to the top floor with another man, named Ward, for the purpose of guiding the radiators down on to the concrete, and, while the radiators were being lowered on a piece of concrete, the concrete gave way, and both fell, Ward being killed and the plaintiff sustaining a fractured skull and other injuries. The plaintiff's case was that the defendant, through his foreman, had no right to invite him to go about this particular work with the radiators. Another complaint was that there ought to have been struts put up to prevent the concrete expanding and weakening.

Chas. Coker, the plaintiff, examined, said on January 27 last year, the day of the accident, he was working for the defendant. In the evening he did some work for Mr. Pearson. Ward, Mr. Pearson's foreman, engaged him to help to hoist the radiators to the third floor. The winch, gear, and tackle belonged to the defendant. He had that day assisted to hoist some landing stones on to the third floor. After he had unhooked the tackle the floor gave way, he and Ward fell through, and witness went to the bottom, sustaining serious injuries. His wages at the time from the defendant were 31s. 3d. a week. He afterwards went back into the service of the defendant as a watchman at 1*l.* 1s. a week.

Cross-examined,

At the time of the accident he had been working on the school house for sixteen months. He did not know that all the centering had been removed from the floor the day before the accident. Witness had been promised by Mr. Pearson's foreman 3s. for helping to raise the radiators.

F. G. Anderson, examined, said that on January 27, last year, he was in the employment of the defendant as a general labourer, and was engaged on the building in question. He had had something to do with the laying of the third floor. His duty was to measure the concrete and lay it down. The proportions he gauged in that way were three barrel-loads of coke breeze, two of broken brick, one of sand, and a bag of cement. The bag of cement weighed about 2 cwt. He knew the piece of floor that fell—it was about the last section which was put in.

Cross-examined,

It was not rotten stuff that was laid down. It took about a month for concrete to thoroughly harden.

Mr. G. Reed, a hot-water engineer in the service of Mr. Pearson, examined, said he visited the building the day following the accident, and selected a piece of the concrete for analysis. A day or two afterwards he went again to the board school and noticed that the floor in question had split right across.

Cross-examined,

He did not know the name of the gentleman who wanted the concrete.

Mr. Ernest William Crickmay, an architect and surveyor, practising in Mincing-lane, E.C., examined, said that, acting on instructions, he visited the scene of the accident on February 3 last year. He was shown a section of the floor that fell. He had sampled a piece of the concrete that had fallen; it would have been good concrete if made according to the specification. On examination, he found the concrete was made of breeze, not coke breeze. The finer the stuff used in the making of concrete the longer it took to set. With concrete such as that the centering ought not to have been moved in less than fourteen days. The piece of concrete handed to him by the foreman was very wet, and was green concrete. The floor would have become a good floor in time. There was nothing to complain of in the floor itself.

Cross-examined,

His objection to the concrete was that the breeze was too fine, and finer than that in the specification. In the piece of concrete he had examined there was no brick or clean broken coke. It was an improper thing to do to put any weight on concrete until it was properly hardened.

Mr. Warwick Husband, an architect and surveyor, practising at No. 33, Old Queen-street, Westminster, examined, said he had heard the evidence of the last witness, and, in substance and in detail, agreed with it.

Other evidence having been given, the plaintiff's case closed.

Mr. Rowlatt then submitted that there was no evidence of negligence to go to the jury, because it was admitted by the plaintiff's witnesses that the concrete would ultimately have been good concrete. The whole question, therefore, was whether the defendant was responsible for the plaintiff having gone on the concrete while it was green. He contended that there was no duty cast on the defendant's foreman to warn Mr. Pearson's men against going on the concrete.

Mr. Thompson argued that there was a case to go to the jury. The defendant's foreman was the only person who could have a full and adequate knowledge of the condition of the floor in question.

His lordship ruled that there was some evidence to go to the jury on that point, but on no other. The whole case as to improper material was therefore gone.

Mr. Shearman then addressed the jury on behalf of the defendant. He submitted that the accident was not due to any negligence on the part of the defendant or his foreman, but that the plaintiff contributed to the accident by his own negligence.

Mr. Gilson, defendant's foreman, examined, said the centering was struck the day before the accident. The concrete was then perfectly safe for anyone to walk upon, but it was not sufficiently strong to bear any great weight. Plaintiff knew perfectly well that nothing should have been put on the concrete at all.

Cross-examined,

When the stones were hoisted up on the afternoon of the accident, he had the floor covered up with boards.

George Dutton, a scaffolder, also in the employ of the defendant, gave evidence generally corroborating that of the last witness.

In the result the jury returned a verdict for the defendant, and judgment was entered accordingly.

ACTION BY ARCHITECT FOR FEES.

IN the King's Bench Division, on the 9th inst., the hearing was concluded, before Mr. Justice Jelf and a common jury, of the case of Hodges *v.* Bernstein—an action by the plaintiff, Mr. R. F. Hodges, an architect and surveyor, against the defendant, Mr. Alexander Bernstein, a boot and shoe manufacturer, to recover 578*l.* 2s. 1d. for monies expended and fees for professional services rendered to the defendant. The defendant denied liability.

Mr. Spencer-Bower, K.C., and Mr. Warren appeared for the plaintiff, and Mr. Montague Shearman, K.C., and Mr. Cannot for the defendant.

Mr. Spencer-Bower, in opening the case, said that the plaintiff was an architect and surveyor, and an Associate of the Royal Institute of British Architects, practising in John-street, Bedford-row, W.C., and he claimed to be particularly skilled in the designing of theatres. Before practising on his own account the plaintiff was for many years one of the advising officers of the London County Council in respect of theatres and music-halls, and he also acted in a similar capacity before that to the Metropolitan Board of Works. The defendant was a boot and shoe manufacturer in a large way of business, having an office in Moor-lane, and residing at Harlesden. Defendant owned land at Ilford and Edmonton on which he wished to have theatres built. The main part of the present claim was for architect's fees in designing and executing plans, and for work done in connexion with the defendant's proposed theatre at Ilford. In respect of that the plaintiff claimed the sum of 553*l.* 10s. 3d. For like services in respect of the erection of a theatre on the defendant's land at Edmonton the plaintiff's original claim was for 32*l.* 19s. 3d., but this was now reduced to 24*l.* 11s. 10d. These two sums together made a total of 578*l.* 2s. 1d. Of the larger claim of 553*l.* 10s. 3d., 494*l.* 2s. 7d. was for architect's commission of 3 per cent. on the lowest estimate of 16,471*l.* sent in by Messrs. Waring & Gillow for the erection of the Ilford theatre. This charge was according to the professional scale settled by the Royal Institute of British Architects as being fair to charge the client. In the event of the works proceeding to completion, 5 per cent. was the recognised fee, but where they only proceeded as far as the preparation of plans, 2½ per cent. was the proper charge, with another ½ per cent. added if the architect procured tenders. That was how the 3 per cent. was charged on the lowest estimate received. The other items in that account were charged for interviews with the local authorities, and so forth. As regarded the Ilford claim, the defence was this:—There was no allegation that the fees charged were not fair and reasonable, but, of course, that did not remove from the plaintiff the onus of proving that they were fair and reasonable. There was also no allegation that the work was done unsuccessfully or negligently. Negatively, what the defendant did say was that the work was not done for or at his request. Then, affirmatively, the defendant said that, if the work was done, it was done upon the instructions of one Cuthbert Simkin. The plaintiff would prove that the work was done at the request of the defendant, and he would also prove the reasonableness of the charges made. On the Edmonton part of the claim the defence was totally different. There, the defendant admitted that he did instruct the plaintiff, but as to the claim for monies expended for the proposed theatre, and in respect of this work, the defendant said he had paid the plaintiff 40 guineas, and that, as the work never went forward, he was under no further liability to the plaintiff for this work under the agreement contained in the letters. The answer of the plaintiff to that was that defendant instructed him long before June, 1903, to make surveys of the plot, and that he did so. The charge for that was only about 2*l.* or 3*l.* Then defendant started a scheme for building a two-tier house, and there was 5*l.* odd due for plans in that connexion. Then defendant started another scheme, still for a two-tier house, but there was an alteration of the frontage and an alteration of the stage. In respect of that scheme there were fees due of about 15*l.* These items made up the 24*l.* odd he (counsel) had mentioned before. The 40 guineas which defendant had paid was for work done in respect of a third scheme which defendant had for a three-tier house. The defendant had never paid the plaintiff for the work done in connexion with No. 1 and No. 2 schemes.

The learned counsel then read a great mass of correspondence which had passed between the parties, during the course of which his lordship remarked that the real point seemed to be which of these two gentlemen—Simkin or the defendant—employed the plaintiff.

Mr. Shearman admitted, assuming that the plaintiff was entitled to recover from somebody, that he was entitled to the R.I.B.A. scale for the work done at Ilford.

Mr. Spencer-Bower said the question for the jury was whether the work was done for the defendant on his instructions or not.

The plaintiff, having given evidence substantially bearing out counsel's statement, in cross-examination by Mr. Shearman, said he was employed by the defendant all the way through the transactions in question. He did send to the Surveyor of the Ilford District Council the plans of the proposed theatre at Ilford enclosed in a letter in which he said he was sending them on behalf of his client, Mr. Simkin, as representing the Theatre Syndicate. For reasons of his own, the defendant did not wish his name to appear on the drawings, and for the purpose of presenting the drawings Mr. Simkin's name was to be put upon them. The Edmonton Theatre plans were prepared for the defendant on his instructions. The defendant was the freeholder of the land at Ilford upon which it was proposed to erect the theatre, and witness was aware that Simkin had entered into a building agreement to build the theatre for 10,000*l.*

Other evidence having been given, and at the close of the plaintiff's case,

Mr. Shearman, in opening the defendant's case, said it was one which involved a mass of documents. He contended that the whole history of the case was to be found in the letters which had passed between the parties, and these letters showed, not once, but fifty times, that the story the plaintiff told of having been retained by the defendant was inconsistent with the facts. The plaintiff knew that the defendant was selling his land to a company for the purpose of the company erecting the theatre. Defendant had not retained the plaintiff to do the work in question, and he contended that the action could not possibly be maintained.

Mr. Alexander Bernstein, the defendant, gave evidence as to purchasing the land at Ilford in May, 1902, and the land at Edmonton in the following September. He had suggested building some shops on the land at Ilford, but a Mr. Ford had suggested that he should build a theatre upon it. He instructed Mr. Ford to prepare some plans, and this Mr. Ford did for an agreed fee of 10*l.* 10s. Witness always gave his orders in writing. Mr. Ford introduced him to a Mr. Danvers, and the latter introduced him to Simkin. Simkin afterwards brought the plaintiff to him. He had not at any time instructed or retained the plaintiff as his architect.

At the conclusion of the arguments of counsel and the addresses of counsel, his lordship in summing-up told the jury that before the plaintiff could possibly recover a verdict he must satisfy them that all along, during the whole of these transactions, there was a substantial bargain between him and the defendant that he should do the work in question for the defendant, and that the defendant should pay him for it.

The jury, after fifteen minutes' deliberation, returned a verdict for the defendant.

His Lordship said he quite agreed with the verdict, and thought that any other would have been a gross miscarriage of justice.

Judgment was accordingly entered for the defendant on all issues with costs.

PATENTS OF THE WEEK.

APPLICATIONS PUBLISHED.*

3,002 of 1904.—O. NEUMEISTER and W. NEUMEISTER: *Metal Plates for Lining Roofings.*

This invention has reference to a roofing plate, by means of which it is possible to provide a lining for the roofing employed in separating walls, chimneys, and the like. The improvement consists essentially of a metal plate, which is provided at one of its longer edges with an angularly projecting outward extension, while to its upper part a rib is secured for the purpose of engagement with the ordinary roofing plates, on the bottom of each of which there is the usual rib, which enters the groove of the rib.

2,797 of 1904.—A. B. RECK: *Hot-water Heating Apparatus.*

A hot-water heating system, wherein steam is introduced into the rising water pipe, consisting of a tank connected directly with the return pipe, and also by means of pipes with the steam space of the separator and with the rising water pipe at a point immediately below the delivery end of the steam pipe.

4,262 of 1904.—J. FOSTER: *Gates and Gate Fittings in Shop and other Doorways.*

A gate for guarding shop and other doorways, entrances, and passages, which consists in having the posts pivotally fitted in a box or trough sunk or let into the ground, the said gate posts being adapted to be operated at will, the arrangement being such that the posts can be turned down to lie horizontally within the box and to be turned up to stand approximately vertical, the gate being either collapsible and adapted to be lowered with the posts into the box and raised with them out of the box or collapsible and detachable from the posts or non-collapsible and detachable.

5,250 of 1904.—F. SMITH: *Springs and Pivots for Doors.*

This invention relates to that class of door springs which contain floor spring checks, and the objects of the invention are to enable one to make the floor spring-box, which contains the mechanism, of a narrower and shallower pattern than hitherto employed, and to make the action so that the door can fold flat back in the same plane as when the door is closed, and by a slight change the action can be altered so as to allow the door to open to the right or left hand. To attain these results the spring is worked by an upright spindle and cam action in the usual way, but the spring slide is connected with the check action by means of collapsible tongs or links working on a fixed centre, and by this arrangement the action is reversed, the check acting as the door closes.

6,106 of 1904.—W. F. SPRATT and R. CURSON: *Form and Arrangement of Legs or Supports to Chairs and the like.*

To so alter the present legs or supports of chairs and the like by substituting for those at the front, back, or side of any or all combinations of same, metallic or other supports bolted or fixed to the bottom, side, front, or back, formed or shaped in such a manner that a space is created between each two chairs, when placed side by side in rows, that can be utilised for hats, garments, umbrellas, and the like.

6,379 of 1904.—W. MILLER: *Cooking Ranges.*

According to this invention an oven is formed in front of the back covings of the range, and to extend beyond the back coves and occupying the space usually allocated to the boiler flue and over the usual open fire flue or directly over the hob, and such oven is heated by carrying the flue from the hot water boiler, at the back of the fireplace, up each side of the oven, such vertical flues being preferably zig-zagged or baffled to direct the heat forward and rearward, or aproximately diagonally across the two compartments into which the oven is preferably divided.

8,131 of 1904.—T. FENNELL: *Window Frames.*

A compound window frame, comprising an exterior frame which is secured to the building, an interior frame fitting within the exterior frame and adapted to turn upwards about hinges secured to one of the sides of the exterior frame or to be entirely removable from the exterior frame, the weight of said sliding sashes being counterbalanced by means of spring balances which are secured to the interior frame.

8,190 of 1904.—H. H. HODKIN: *Combined Kitchen Ranges, with Wash Boiler, Bath, and other Attachments.*

This consists in the combination with a kitchen range, having a bottom grate capable of lateral movement by means of a rack and pinion, or equivalent means, and of an open top boiler having means of access through a hinged door at the side of the jamb; of a sink having a supply cistern and a bath which turns upon its outlet fitting.

8,191 of 1904.—E. BIRCH: *Slopsinks.*

A slopsink, consisting of a tank divided into two chambers by a perforated partition, one of the said chambers serving to receive the liquid containing fatty matter, and the other to receive and drain off the liquid freed therefrom.

9,699 of 1904.—R. J. LINES and A. J. LINES: *Machine for Cutting Wood or other like Material to an Angle, Bevel, Mitre Square, or other Desired Shape.*

A machine for cutting wood or other like material, consisting of a main frame provided with a front horizontal table, vertically arranged, and rotatable discs mounted in the ends of the main frame, and connected by a horizontal support arranged rearwardly of the table, a rack bar connected with said support and movable longitudinally thereof, and provided with depending cutter blades, and means for operating said rack bar.

14,103 of 1904.—G. TIPPEL: *Door Closers.*

A door closer, consisting of the combination of a roller, housing for the same, means for fixing said housing on the door, a race having a helically rising working surface, and arrestment places on the same, and means for adjusting the height of said race.

14,183 of 1904.—G. CONTI-VECCHI: *Process of and Means for the Impregnation of Wood with Antiseptic and like Substances or Liquids.*

The process which is the object of this invention is entirely based upon the principle of capillary action and atmospheric pressure. By the submersion under atmospheric pressure in a liquid at a higher temperature than 100 deg. C. (bath of vapourisation or dehydration), nearly all the water filling up the pores of the wood is extracted. This escapes in the form of steam, producing an ebullition of the bath liquid, and by the successive submersion at atmospheric pressure in a liquid at a temperature below 100 deg. C. (bath absorption or impregnation), the wood is impregnated with this liquid. The water vapours occupying the pores of the wood on recooling are condensed, and leave a space which the liquid goes to fill up by the action of the atmospheric pressure, aided by the absorbent and capillary action of the wood.

20,981 of 1904.—C. WOLFF: *Swing Windows.*

A fastening for swing windows, comprising a fastening lever on the swing frame under spring influence, operated by means of a cord, a releasing device, pivotally jointed to the lever, and a catch adapted to fasten the window in the closed position, and to be released by the releasing device, which comprises a U-shaped lever turning freely with its parallel arms on a pivot of the fastening lever, whilst the catch which is forced automatically into the fastening position has a recess extending to a crosspiece on the releasing device, and in which this crosspiece engages in or to effect the removal or raising of the catch to release the window.

12,708 of 1904.—F. HARRISON: *Fireproof Floorings, Ceilings, and Roofs.*

The construction of fireproof floors, ceilings, and roofs, provided with iron joists or equivalent, consisting in the use of main and auxiliary blocks, the said main blocks spanning the space between the joist, and rabbeted on the meeting sides so that one block forms a part support to an adjacent block.

8,504 of 1904.—W. GLOSSOP: *Manufacture of Artificial Stone.*

A sanitary or hygienic artificial stone for paving and general constructive purposes, and having permanent disinfectant or antiseptic properties by reason of the incorporation with its ingredient materials, at any convenient stage of its manufacture, of a suitable disinfectant or antiseptic substance.

9,502 of 1904.—C. W. GREGORY, JUN.: *Compressible Packing for Wood Block Road Paving.*

A compressible packing for wood block paving, comprising one or more layers of tarred and corrugated paper enclosed in a tarred cardboard case wrapped in canvas, and stitched or sewn together, and finally dipped in tar.

14,527 of 1904.—J. E. SCHNUETGEN: *Plates or Slabs for Partitions for Buildings.*

This invention relates to plates or slabs for partitions for buildings. These partitions for dividing rooms or spaces in buildings are manufactured from pumice stone 50 parts, cement 15 parts, volcanic sand 15 parts, hydraulic lime water 20 parts.

7,932 of 1904.—W. STIEPER: *Centring or Scaffold for Use in the Construction of Concrete Floors.*

Centring or scaffold for use in the construction of concrete floors, characterised by a revolving catch fitted to each hook of the iron support, which automatically causes wedge-like pressure, and by turning the catch, which is provided with a notch, upwards occasions a lowering of the iron support into the slot of the hook.

27,527 of 1904.—F. R. HEISE: *Lining for Shafts or Wells.*

This consists in providing segments or rings for lining shafts with inward corrugations or the like to strengthen them against lateral pressure, and without horizontal strengthening ribs to decrease the casting stresses, and in order to allow of a greater thickness being employed with increased resisting capacity.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

February 25.—By T. W. OFFIN (at Hockley).

Hockley, Essex.—"Barton's Farm," 231 a. 0 r. 1 p., f., p. £1,600

February 27.—By JOHN BOTT & SONS.

Herne Hill.—11, Gubyon-av., u.t. 70 yrs., g.r. 8*l.*, e.r. 52*l.* 475

By C. RAWLEY CROSS & CO.

Ealing.—11, Leopold-rd., u.t. 91 yrs., g.r. 10*l.* 10s., p. 1,400

Chiswick.—151, 153, and 155, Devonshire-rd., f., y.r. 45*l.* 10s. 355

Action.—28 to 31, Holland-ter., u.t. 60 yrs., g.r. 12*l.*, e.r. and y.r. 105*l.* 6s. 310

By ELLIOTT, SON, & BOYTON.

Hyde Park.—Hyde Park-st., i.g.r. 82*l.*, u.t. 29¾ yrs., g.r. nil. 1,315

Southwick-cres., i.g.r. 40*l.*, u.t. 30 yrs., g.r. 4*l.* 10s. 575

By JENKINS & SONS.

Lewisham.—218, Lewisham High-rd., u.t. 53 yrs., g.r. 15*l.*, p. 1,350

1, Tressillian-rd., u.t 53 yrs., g.r. 5*l.* 3s. 6d., p. 380

New Cross.—11, Amersham-vale, f., y.r. 24*l.* .. 400

Deptford.—88 and 91, Brookmill-rd., u.t. 61 yrs., g.r. 7*l.*, w.r. 67*l.* 12s. 605

Brockley.—37, 39, 41, and 43, Harefield-rd., u.t. 67 yrs., g.r. 19*l.* 8s., y.r. 154*l.* 1,630

131 and 133, Malpas-rd., u.t. 68 yrs., g.r. 8*l.* 10s., y.r. 56*l.* 600

New Cross.—96, 98, and 100, Shardloes-rd., u.t. 59 yrs., g.r. 12*l.* 10s., y.r. 92*l.* 975

Rotherhithe.—77 and 79, Verney-rd., u.t. 72 yrs., g.r. 10*l.*, w.r. 57*l.* 4s. 400

By FRED VARLEY & SON.

Finsbury Park.—432, Seven Sisters-rd., u.t. 62 yrs., g.r. 10*l.* 10s., e.r. 75*l.* 900

By VENTOM, BULL, & COOPER.

City of London.—8, Laurence Pountney-hill, area 1,800 ft., let for 80 yrs. at per annum 465

City of London.—54 to 62, New Broad-st., area 14,000 ft., building lease for 80 yrs., let at per annum 4,000

February 28.—By PERCY H. CLARKE.

South Lambeth.—Wandsworth-rd., etc., f.g. rents 738*l.*, reversion in 80 yrs. (in lots) .. 16,945

By FLINT, PITT, & DURBRIDGE.

Highgate.—Archway-rd., f.g. rents 212*l.* 8s., reversion in 76 yrs. 5,700

By FRITH, GARLAND, & CO.

Hornsey.—36, Priory-av., u.t. 95 yrs., g.r. 8*l.*, e.r. 40*l.* 380

15, Mulkern-rd., u.t. 73 yrs., g.r. 5*l.*, w.r. 29*l.* 18s. 185

By ALFRED PREECE & SON.

Bayswater.—53, Archer-st., u.t. 39 yrs., g.r. 7*l.* 7s., e.r. 50*l.* 425

Stoke Newington.—9, Broughton-rd., u.t. 58 yrs., g.r. 6*l.* 6s., y.r. 35*l.* 300

By T. B. WESTACOTT.

Kentish Town.—110, Allcroft-rd., u.t. 60¾ yrs., g.r. 7*l.* 7s., y.r. 36*l.* 350

47, Hartland-rd., u.t. 34 yrs., g.r. 5*l.* 5s., y.r. 34*l.* 310

59, Willes-rd., u.t. 16½ yrs., g.r. 5*l.*, y.r. 34*l.* 180

Holloway.—45, Medina-rd., u.t. 56 yrs., g.r. 5*l.*, y.r. 32*l.* 340

Stoke Newington.—6, Brighton-rd., u.t. 56½ yrs., g.r. 6*l.*, e.r. 38*l.* 360

By C. P. WHITELEY.

Leyton.—Shelley-rd., a plot of freehold building land 765

By F. WARMAN.

Highbury.—95, Highbury New-pk., u.t. 44 yrs., g.r. 9*l.*, e.r. 80*l.* 650

33 and 35, Highbury-pk., f., e.r. 110*l.* 1,470

188, Highbury-hill, u.t. 72 yrs., g.r. 6*l.*, y.r. 28*l.* 330

Hoxton.—150, New North-rd., u.t. 21 yrs., g.r. 6*l.* 6s., y.r. 42*l.* 225

3, South-st., u.t. 22 yrs., g.r. 6*l.* 6s.; also i.g.r. 1*l.* 14s. 250

By ALFRED RICHARDS (at Tottenham).

Tottenham.—3 to 9, Compton-ter., u.t. 94 yrs., g.r. 40*l.* 5s., y.r. 163*l.* 16s. 700

129 and 131, Compton-rd., u.t. 94 yrs., g.r. 10*l.* 10s., y.r. 48*l.* 2s. 160

65, 67, 69, and 71, Vernon-rd., u.t. 94 yrs., g.r. 21*l.*, y.r. 88*l.* 8s. 220

Edmonton.—12, 14, 16, and 18, Gilpin-cres., u.t. 92 yrs., g.r. 22*l.*, y.r. 93*l.* 12s. 200

1, 2, and 3, Linton Broadway (s), u.t. 92 yrs., g.r. 24*l.*, y.r. 81*l.* 18s. 120

March 1.—By HOBSON, RICHARDS, & CO.

Worplesdon, Surrey.—Pitch-pl., a freehold cottage and plot of land, y.r. 15*l.* 420

By MARK LIELL & SON.

Mile End.—25, Morgan-st., u.t. 34½ yrs., g.r. 4*l.*, y.r. 66*l.* 840

8 and 10, Antill-rd., u.t. 62½ yrs., g.r. 9*l.*, y.r. 64*l.* 735

St. Pancras.—100, Drummond-st., u.t. 14 yrs., g.r. 6*l.*, y.r. 72*l.* 16s. £200

By DOUGLAS YOUNG & Co.

South Lambeth.—3, St. Barnabas-villas, u.t. 37 yrs., g.r. 5*l.*, y.r. 52*l.* 10s. 600

Camberwell.—24, De Crespigny-pk., u.t. 40 yrs., g.r. 6*l.*, e.r. 65*l.* 500

By DEBENHAM, TEWSON, & Co., in conjunction with MATTHEWS, MATTHEWS, & GOODMAN (at Winchester House).

Woolwich.—Anglesea-rd., etc., f.g. rents 64*l.* 6s., reversion in 15, 19 to 26 yrs. 2,430

Crescent-rd., f.g. rents 71*l.* 4s., reversion in 13¾ to 19¾ yrs. 4,490

Sandy-hill, f.g. rents 28*l.* 2s., reversion in 5 to 6½ yrs. 2,800

Brook Hill-rd., "Warpole Arms," p.h., f.g.r. 45*l.*, reversion in 23¼ yrs. 3,000

84, 85, and 86, Brook Hill-road, f., w.r. 59*l.* 16s. 570

Brook Hill-rd., f.g. rents 9*l.* 9s, reversion in 22 to 28 yrs. 320

Walpole-pl., f.g. rents 33*l.* 17s. 6d., reversion in 22 to 28½ yrs. 1,175

Brook Hill-rd., f.g. rents 30*l.* 16s., reversion in 3½ to 6½ yrs. 2,330

Brook Hill-rd., f.g. rents 16*l.* 16s., reversion in 20 yrs. 700

Sandy-hill, f.g. rents 15*l.* 10s., reversion in 5 yrs. 2,375

Brook Hill-rd., f.g. rents 65*l.* 4s., reversion in 9, 14, to 27 and 39 yrs. 3,405

Hanover-ter., f.g. rents 25*l.* 17s. 6d., reversion in 45½ yrs. 680

Bignell-rd., f.g. rents 22*l.* 10s., reversion in 28½ to 37½ yrs. 720

Sandy Hill-rd., f.g. rents 11*l.*, reversion in 28 yrs. 460

62 to 70 (even), Sandy Hill-rd., f., w.r. 133*l.* 18s. 1,440

Sandy Hill-rd. f.g. rents 15*l.* 12s. 6d., reversion in 2½ yrs. 4,705

Sandy Hill-rd., "The Fort Tavern" p.h., f.g.r. 13*l.* 8s., reversion in 8½ yrs. 3,000

Brook Hill-rd., f.g. rents 24*l.* 9s., reversion in 45 yrs. 610

Sydney-ter., etc., f.g. rents 24*l.*, reversion in 45 to 55½ yrs. 540

Willenhall-rd., "Joss Cottage," f., y.r. 40*l.* 550

Brook Hill-rd., f.g. rents 79*l.* 12s., reversion in 25 to 44 yrs. 2,520

Brook Hill-rd., "The Lord Clyde" p.h., f.g.r. 15*l.*, reversion in 25 yrs. 1,500

Plumstead Common-rd., f.g. rents 22*l.* 10s., reversion in 67 yrs. 590

Plumstead Common-rd., f.g. rents 18*l.* 6s., reversion in 24 yrs. 750

Hanover-rd, f.g. rents 25*l.*, reversion in 24 to 28¼ yrs 890

Willenhall-rd., f.g. rents 52*l.*, reversion in 44¾ yrs 1,600

Willenhall-rd., f.g.r. 9*l.*, reversion in 27¼ yrs. 270

Hanover-rd., f.g. rents 147*l.* 16s., reversion in 24 to 46 yrs. 5,485

Plumstead Common-rd., f.g. rents 10*l.*, reversion in 21¼ yrs. 490

Plumstead Common-rd., etc., f g.r. 42*l.* 10s., decreasing to 34*l.* 15s. in 13 years, reversion in 57 yrs. 980

Plumstead Common-rd, "The Fox and Hounds," p.h., f.g.r. 42*l.* 10s, reversion in 13 yrs. 2,500

Sandy Hill-rd., f.g. rents 40*l.* 14s., reversion in 2½ to 20¾ yrs. 4,380

110 to 120 (even), Sandy Hill-rd., f., y.r. 139*l.* 4s. 1,600

Sandy Hill-rd., the "Avenue Arms" b.h., f.g.r. 30*l.*, reversion in 56 yrs. 900

3 to 7, The Avenue, f., w.r. 71*l.* 10s. 770

The Avenue, f.g. rents 23*l.*, reversion in 14 to 28 yrs. 910

Sandy Hill-rd., f.g. rents 36*l.*, reversion in 19¾ to 28 yrs. 1,490

Bignell-rd., f.g.r. 11*l.* 5s., reversion in 28¼ yrs. 500

Sandy Hill-rd, f.g. rents 46*l.* 8s. 6d., reversion in 2 to 7 yrs. 5,130

Sandy Hill-rd., f.g. rents 12*l.*, reversion in 38¼ or 44¼ yrs. 380

31, Plumstead Common-rd., f., y.r. 30*l.* 470

Plumstead Common-rd., f.g. rents 22*l.* 8s., reversion in 8½ to 16½ yrs. 1,630

Bloomfield-rd., f.g. rents 55*l.*, reversion in 15¼ to 18¾ yrs. 2,520

Bloomfield-rd., f.g.r. 14*l.*, reversion in 81 yrs. 390

Bloomfield-rd., f.g.r. 2*l.*, reversion in 15¼ yrs. 200

St. James-pl., f.g. rents 39*l.* 10s., reversion in 16 to 22 yrs. 2,270

Sandy Hill-rd.. the "Melbourne Arms" p.h., f.g.r. 60*l.*, reversion in 56 yrs. 1,900

Sandy Hill-rd., f.g. rents 30*l.* 10s., reversion in 5 yrs. 3,740

March 2.—By L. F. L. BRIDGLAND.

Bow.—3 to 11 (odd), Fairfoot-rd., u.t. 57 yrs., g.r. 20*l.*, w.r. 164*l.* 9s. 1,000

Wanstead.—5, Fitzgerald-rd., f., q.r. 40*l.* 530

2, 4, 6, and 8, Fitzgerald-rd., f., q.r. 112*l.* .. 1,300

24, Wellesley-rd., f., e.r. 26*l.* 275

Woodford —2, 4, and 6, Elm-gr., also 1 and 3, Elm Villas, u.t. 93 yrs., g.r. 10*l.* 10s., y.r. 111*l.* 16s. 875

8 to 18 (even), Elm-gr., f., y.r. 118*l.* 6s. 1,100

By FURBERS'.

Bayswater.—21, Chepstow Villas, u.t. 40 yrs., g.r. 10*l.* 10s., p. 870

Holloway.—49, Loraine-rd., f., y.r. 52*l.* 780

By GLASIER & SONS.

Godstone, Surrey. — "Yew Tree Farm," 139 a. 2 r. 15 p., f. 4,825

By NEWBON, EDWARDS, & SHEPHARD.

King's Cross.—38, Argyle-sq., u.t. 36 yrs., g.r. 7*l.* 10s., y.r. 63*l.* 575

Maida Vale.—7, 9, and 11, Lyons-pl., profit rental of 56*l.* for 17 yrs. 450

Hornsey.—57, Linzee-rd., u.t. 92 yrs., g.r. 7*l.*, y.r. 30*l.* 280

New Southgate.—9, Carlton-rd., u.t. 94 yrs., g.r. 7*l.*, y.r. 32*l.* 275

Dalston.—2, 4, 14, and 16, Queen's-rd., u.t. 38 and 39 yrs., g.r. 18*l.*, y.r. 256*l.* 12s. 1,185

By WILLIAM WESTON.

Peckham.—200, Commercial-rd., u.t. 25 yrs., g.r. 10*l.*, w.r. 89*l.* £130

Battersea.—31 and 32, Havelock-ter., u.t. 55 yrs., g.r. 4*l.*, w.r. 41*l.* 12s. 240

March 3.—By WM. CLARKSON.

Poplar.—38, Bath-st. (s.), f., w.r. 36*l.* 8s. 400

1, Tetley-st., f., p. 160

By EDWIN EVANS.

Hampstead.—74, Hillfield-rd, f., y.r. 50*l.* 705

Regent's Park.—2, Sharples Hall-st., u.t. 62 yrs., g.r. 8*l.*, y.r. 45*l.* 485

Mill Hill.—7 to 12, Saunders-cottages, u.t. 74 yrs., g.r. 20*l.*, w.r. 109*l.* 4s. 530

Stockwell.—42. Sidney-rd., u.t. 36½ yrs., g.r. 5*l.*, e.r. 36*l.* 280

Lambeth.—11, York-st., and 6 and 7, Sapphire-pl. u.t. 12 yrs., g.r. 7*l.* 11s. 8d., w.r. 57*l.* 4s. 55, York-st., u.t. 18¼ yrs., g.r. 7*l.* 10s., w.r. 19*l.* 180

Balham.—16, Baskerville-rd., u.t. 74½ yrs., g.r 15*l.* 15s., p. 170

Kentish Town.—26 to 34, 42 to 48 (even), York-rise, u.t. 54¾ yrs., g.r. 72*l.*, y.r. 378*l.* 3,600

Stratford.—195, Leytonstone-rd. (s.), f., y.r. 55*l.* 825

Stoke Newington.—88 to 102 (even), Carysfort-rd., u.t. 87 yrs., g.r. 60*l.* 12s. 6d., y.r. 316*l.* 2,960

By W. B. HALLETT.

Clapham —18, Fentiman-rd., f., y.r. 45*l.* 590

Victoria Park.—111, Cadogan-ter., f., y.r. 28*l.* 355

By PERCIVAL HODSON.

Finsbury Park —62, Gloucester-rd., u.t. 53 yrs., g.r. 12*l.* 12s. 575

New Malden.—Montem-rd., "Danebury," f., e.r. 50*l.* 680

By G. A. WILKINSON & SON.

Edgware-road.—No. 85, u.t. 14 yrs., g.r. 12*l.* 12s., y.r. 100*l.* 700

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term: p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

TO CORRESPONDENTS.

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Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

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We are compelled to decline pointing out books and giving addresses.

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All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

MEETINGS.

FRIDAY, MARCH 10.

Royal Institution.—Professor J. J. Thomson, LL.D., D.Sc., on "The Structure of the Atom." 9 p.m.

Architectural Association.—Mr. H. V. Lanchester on "Law Courts." 7.30 p.m.

Institution of Civil Engineers (Students' Meeting).—(1) "The Purification of Sewage," by Mr. F. G Helsby; (2) "The Purification of Sewage by Hydrolysis and Oxidation," by Mr. F. O. Kirby. 8 p.m.

SATURDAY, MARCH 11.

Royal Institution.—Professor J. J. Thomson, LL.D., D.Sc., on "Electrical Properties of Radioactive Substances," I. 3 p.m.

Junior Institution of Engineers.—Visit to the New Ritz Hotel, Piccadilly, to inspect the "Cage Skeleton" System of Constructional Engineering. 3 p.m.

Edinburgh Architectural Association.—Visits (1) to Midlothian County Court Buildings; (2) The new *Scotsman* Office Buildings.

MONDAY, MARCH 13.

Surveyors' Institution.—Mr. E. Morten on "Surveyors' Reports and Certificates." 8 p.m

Bristol Society of Architects.—Mr. D. M. Nesbit on "Heating and Ventilating." 8 p.m.

Society of Arts (Cantor Lecture).—Mr. H. Laws Webb on "Telephony." 8 p.m.

TUESDAY, MARCH 14.

Cardiff, South Wales, and Monmouthshire Architects' Society.—Mr. H. W. Wills on "The Architectural Planning of Public Buildings." 8 p.m.

Institution of Civil Engineers.—Lord Brassey, K.C.B., on "Shipbuilding for the Navy." 8 p.m.

WEDNESDAY, MARCH 15.

Architectural Association (Discussion Section).—Mr. A. E. Munby, M.A., on "An Information Bureau on the Products of the Building Trade." 7.30 p.m.

Edinburgh Architectural Association.—Paper by Mr. W. Beattie Brown, jun., entitled "Notes on Spain," illustrated by lantern slides. 8 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary Meeting of the Members. 8 p.m.

Society of Arts.—Mr. E. H. Hankin, M.A., on "Methods of Design in Mohammedan Art." 8 p.m.

Institute of Sanitary Engineers, Ltd.—Examination and Literary Committee at 3.30 o'clock; Finance Committee at 5 o'clock; Sessional Meeting in the Members' Room at 7 o'clock, when a discussion will be opened on the "Housing of the Working Classes," by Mr. T. S. Simmons

Institution of Civil Engineers.—Students' visit to the Sewage Works at Sutton, Surrey. 2.30 p.m.

THURSDAY, MARCH 16.

Royal Institution.—Professor H. H. Turner, D.Sc., on "Recent Astronomical Progress," III. 5 p.m.

Society of Antiquaries.—8.30 p.m.

Carpenters' Hall, London Wall (Lectures on Matters Connected with Building).—Mr. H. Phillips Fletcher on "The St. Louis Exhibition, 1904." 8 p.m.

FRIDAY, MARCH 17.

Institution of Mechanical Engineers.—Paper to be read and discussed: "First Report to the Steam-Engine Research Committee," by Professor David S. Capper. 8 p.m.

SATURDAY, MARCH 18.

Royal Institution.—Professor J. J. Thomson, LL.D., D.Sc., on "Electrical Properties of Radioactive Substances," II. 3 p.m.

Incorporated Association of Municipal and County Engineers.—Yorkshire District Meeting at Cleckheaton.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£	s.	d.			
Hard Stocks.	1	12	0	per 1000	alongside, in river.	
Rough Stocks and Grizzles	1	8	0	,,	,,	,,
Facing Stocks ...	2	5	0	,,	,,	,,
Shippers	2	5	0	,,	,,	,,
Flettons	1	8	0	,,	at railway depôt.	
Red Wire Cuts ...	1	14	0	,,	,,	,,
Best Fareham Red	3	12	0	,,	,,	,,
Best Red Pressed Ruabon Facing	5	0	0	,,	,,	,,
Best Blue Pressed Staffordshire ...	4	4	0	,,	,,	,,
Do. Bullnose	4	10	0	,,	,,	,,
Best Stourbridge Fire Bricks.....	4	8	0	,,	,,	,,
GLAZED BRICKS.						
Best White and Ivory Glazed Stretchers	12	0	0	,,	,,	,,
Headers	11	0	0	,,	,,	,,
Quoins, Bullnose, and Flats.....	16	0	0	,,	,,	,,
Double Stretchers	19	0	0	,,	,,	,,
Double Headers...	16	0	0	,,	,,	,,
One Side and two Ends	19	0	0	,,	,,	,,
Two Sides and one End	20	0	0	,,	,,	,,
Splays, Chamferred, Squints	20	0	0	,,	,,	,,
Best Dipped Salt Glazed Stretchers, and Header	12	0	0	,,	,,	,,
Quoins, Bullnose, and Flats.....	14	0	0	,,	,,	,,
Double Stretchers	15	0	0	,,	,,	,,
Double Headers...	14	0	0	,,	,,	,,
One Side and two Ends	15	0	0	,,	,,	,,
Two Sides and one End	15	0	0	,,	,,	,,
Splays, Chamferred, Squints	14	0	0	,,	,,	,,
Second Quality White and Dipped Salt Glazed	2	0	0	,,	less than best.	

	s.	d.		
Thames and Pit Sand.....	7	0	per yard,	delivered.
Thames Ballast.....	5	9	,,	,,
Best Portland Cement	27	0	per ton,	,,
Best Ground Blue Lias Lime	20	0	,,	,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime.....12s. 0d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 6d. per ton at rly. dpt.

STONE.

	s.	d.		
BATH STONE—delivered on road waggons, Paddington Depôt	1	6½	per ft. cube.	
Do. do. delivered on road waggons, Nine Elms Depôt	1	8½	,,	,,
PORTLAND STONE (20 ft. average)— Brown Whitbed, delivered on road waggons, Paddington depôt, Nine Elms depôt, or Pimlico Wharf...	2	1	,,	,,
White Basebed, delivered on road waggons, Paddington depôt, Nine Elms depôt, or Pimlico Wharf...	2	2½	,,	,,

	s.	d.		
Ancaster in blocks.....	1	11	per ft. cube,	deld. rly. depôt.
Beer ,, ...	1	6	,,	,,
Greenshill ,, ...	1	10	,,	,,
Darley Dale in blocks...	2	4	,,	,,
Red Corsehill ,,	2	5	,,	,,
CloseburnRedFreestone	2	0	,,	,,
Red Mansfield ,,	2	4	,,	,,
YORK STONE—*Robin Hood Quality.*				
Scappled random blocks	2	10	,,	,,
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	3	per ft. super.	,,
6 in. rubbed two sides ditto, ditto	2	6	,,	,,
3 in. sawn two sides slabs (random sizes)	0	11½	,,	
2 in. to 2½ in. sawn one side slabs (random sizes)	0	7½	,,	,,
1½ in. to 2 in. ditto, ditto	0	6	,,	,,

STONE (*continued*).

HARD YORK—	s. d.	
Scappled random blocks	3 0	per ft. cube. deld. rly. depôt.
6 in. sawn two sides, landings to sizes (under 40 ft. super.)	2 8	per ft. super. „
6 in. rubbed two sides ditto	3 0	„ „
3 in. sawn two sides (slabs random sizes)	1 2	„ „
2 in. self-faced random flags	0 5	„ „

	s. d.	
Hopton Wood (Hard Bed) in blocks	2 3	per ft. cube. deld. rly. depôt.
„ „ „ 6 in. sawn both sides landings	2 7	per ft. super. deld. rly. depôt.
„ „ „ 3 in. do.	1 2½	„ „

SLATES.

in. in.	£ s. d.	
20 × 10 best blue Bangor	13 2 6	per 1000 of 1200 at r. d.
20 × 12 „ „	13 17 6	„ „
20 × 10 first quality „	13 0 0	„ „
20 × 12 „ „ „	13 15 0	„ „
16 × 8 „ „ „	7 5 0	„ „
20 × 10 best blue Portmadoc	12 12 6	„ „
16 × 8 „ „	6 12 6	„ „
20 × 10 best Eureka unfading green	15 17 6	„ „
20 × 12 „ „	18 7 6	„ „
18 × 10 „ „	13 5 0	„ „
16 × 8 „ „	10 5 0	„ „
20 × 10 permanent green	11 12 6	„ „
18 × 10 „ „	9 12 6	„ „
16 × 8 „ „	6 12 6	„ „

TILES.

	s. d.	
Best plain red roofing tiles	42 0	per 1000 at rly. depôt.
Hip and Valley tiles	3 7	per doz. „ „
Best Brosely tiles	50 0	per 1000 „ „
Do. Ornamental tiles	52 6	„ „ „
Hip and Valley tiles	4 0	per doz. „ „
Best Ruabon red, brown, or brindled do. (Edwards)	57 6	per 1000 „ „
Do. Ornamental do	60 0	„ „ „
Hip tiles	4 0	per doz. „ „
Valley tiles	3 0	„ „ „
Best Red or Mottled Staffordshire do. (Peakes)	51 9	per 1000 „ „
Do. Ornamental do	54 6	„ „ „
Hip tiles	4 1	per doz. „ „
Valley tiles	3 8	„ „ „
Best "Rosemary" brand plain tiles	48 0	per 1000 „ „
Best Ornamental tiles	50 0	„ „ „
Hip tiles	4 0	per doz. „ „
Valley tiles	3 8	„ „ „
Best "Hartshill" brand plain tiles, sand faced.	50 0	per 1000 „ „
Do. pressed	47 6	„ „ „
Do. Ornamental do	50 0	„ „ „
Hip tiles	4 0	per doz. „ „
Valley tiles	3 6	„ „ „

WOOD.

BUILDING WOOD.	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in	13 10 0	15 0 0
Deals: best 3 by 9	13 0 0	14 0 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 0 0	12 0 0
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less thn best
Battens: seconds	0 10 0	„ „ „
2 in. by 4 in. and 2 in. by 6 in.	9 0 0	10 0 0
2 in. by 4½ in. and 2 in. by 5 in.	8 10 0	9 10 0
Foreign Sawn Boards—		
1 in. and 1¼ in. by 7 in.	0 10 0	more than battens.
¾ in.	1 0 0	„

	At per load of 50 ft.	
Fir timber: best middling Danzig or Memel (average specification)	4 10 0	5 0 0
Seconds	4 0 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Small timber (6 in. to 8 in.)	3 0 0	3 10 0
Swedish balks	2 10 0	3 0 0
Pitch-pine timber (30 ft. average)	3 5 0	3 15 0

JOINERS' WOOD.	At per standard.	
White Sea: first yellow deals, 3 in. by 11 in	24 0 0	25 0 0
3 in. by 9 in.	22 0 0	23 0 0
Battens, 2½ in. and 3 in. by 7 in.	16 10 0	18 0 0
Second yellow deals, 3 in by 11 in.	18 10 0	20 0 0
„ „ 3 in. by 9 in.	17 10 0	19 0 0
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	14 10 0
Third yellow deals, 3 in. by 11 in. and 9 in.	13 10 0	15 0 0
Battens, 2½ in. and 3 in. by 7 in.	11 0 0	12 0 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 0 0	22 10 0
Do. 3 in. by 9 in.	18 0 0	19 10 0
Battens	13 10 0	15 0 0
Second yellow deals, 3 in. by 11 in.	16 0 0	17 0 0
Do. 3 in. by 9 in.	14 10 0	16 0 0
Battens	11 0 0	12 10 0
Third yellow deals, 3 in. by 11 in.	13 0 0	14 0 0
Do. 3 in. by 9 in.	12 10 0	14 0 0
Battens	10 0 0	11 0 0
White Sea and Petersburg :—		
First white deals, 3 in. by 11 in.	14 10 0	15 10 0
„ „ 3 in. by 9 in.	13 10 0	14 10 0
Battens	11 0 0	12 0 0
Second white deals, 3 in. by 11 in.	13 10 0	14 10 0
„ „ 3 in. by 9 in.	12 10 0	13 10 0
„ „ battens	10 0 0	11 0 0
Pitch-pine: deals	16 10 0	20 0 0
Under 2 in. thick extra	0 10 0	1 0 0
Yellow Pine—First, regular sizes	40 0 0	upwards.
Oddments	28 0 0	„
Seconds, regular sizes	30 0 0	„
Yellow Pine oddments	25 0 0	„
Kauri Pine—Planks, per ft. cube	0 3 6	0 5 0
Danzig and Stettin Oak Logs—		
Large, per ft. cube	0 3 0	0 3 6
Small „ „	0 2 6	0 2 9
Wainscot Oak Logs, per ft. cube.	0 5 0	0 5 6

WOOD (*continued*).

JOINERS' WOOD (*continued*).	At per standard. £ s. d.	£ s. d.
Dry Wainscot Oak, per ft. sup. as inch	0 0 8	0 0 9
¾ in. do. do.	0 0 7	—
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0 0 9	0 1 0
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 6
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 1 0
Teak, per load	17 0 0	21 0 0
American Whitewood Planks, per ft. cube	0 4 0	0 5 0

Prepared Flooring, etc.—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 6	0 17 6
1 in. by 7 in. yellow, planed and matched	0 14 0	0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	1 0 0
1 in. by 7 in. white, planed and shot	0 12 0	0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	0 15 0
1¼ in. by 7 in. white, planed and matched	0 15 0	0 16 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	0 13 6
1 in. by 7 in. do. do.	0 14 0	0 18 0
¾ in. by 7 in. white do. do.	0 10 0	0 11 6
1 in. by 7 in. do. do. do.	0 12 9	0 15 0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	5 15 0 ...	6 15 0
Compound Girders, ordinary sections	7 5 0 ...	8 7 6
Steel Compound Stancheons	9 2 6 ...	10 12 6
Angles, Tees and Channels, ordinary sections	7 7 6 ...	8 7 6
Flitch Plates	7 15 0 ...	8 5 0
Cast Iron Columns and Stanchions including ordinary patterns	6 12 6 ...	7 15 0

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON—		
Common Bars	7 0 0 ...	7 10 0
Staffordshire Crown Bars, good merchant quality	7 10 0 ...	8 0 0
Staffordshire "Marked Bars"	9 10 0 ...	—
Mild Steel Bars	8 5 0 ...	8 15 0
Hoop Iron, basis price	8 15 0 ...	9 0 0
„ „ Galvanized	16 10 0 ...	—
(*And upwards, according to size and gauge.)		
Sheet Iron, Black—		
Ordinary sizes to 20 g.	9 0 0 ...	—
„ „ 24 g.	10 0 0 ...	—
„ „ 26 g.	11 15 0 ...	—
Sheet Iron, Galvanised, flat, ordinary quality—		
Ordinary sizes—6 ft. by 2 ft. to 3 ft. to 20 g.	12 10 0 ...	—
Ordinary sizes to 22 g. and 24 g.	13 0 0 ...	—
„ „ 26 g.	14 0 0 ...	—
Sheet Iron, Galvanised, flat, best quality—		
Ordinary sizes to 20 g.	15 10 0 ...	—
„ „ 22 g. and 24 g.	16 0 0 ...	—
„ „ 26 g.	17 10 0 ...	—
Galvanised Corrugated Sheets—		
Ordinary sizes 6 ft. to 8 ft. 20 g.	12 10 0 ...	—
„ „ 22 g. and 24 g.	13 0 0 ...	—
„ „ 26 g.	13 15 0 ...	—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	11 0 0 ...	—
Best Soft Steel Sheets, 22 g. & 24 g.	12 0 0 ...	—
„ „ „ 26 g.	13 10 0 ...	—
Cut nails, 3 in. to 6 in.	9 0 0 ...	9 10 0

(Under 3 in., usual trade extras.)

LEAD, &c.

	Per ton, in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 3lb. and up	14 15 0 ...	—
Pipe in coils	15 5 0 ...	—
Soil pipe	17 15 0 ...	—
Compo pipe	17 15 0 ...	—
ZINC—Sheet—		
Vieille Montagne ... ton	30 15 0 ...	—
Silesian	30 10 0 ...	—
COPPER—		
Strong Sheet ... per lb.	0 0 10 ...	—
Thin „ ... „	0 0 11 ...	—
Copper nails ... „	0 0 10 ...	—
BRASS—		
Strong Sheet ... „	0 0 9½ ...	—
Thin „ ... „	0 0 10 ...	—
TIN—English Ingots ... „	0 1 4½ ...	—
SOLDER—Plumbers' ... „	0 0 6½ ...	—
Tinmen's ... „	0 0 8 ...	—
Blowpipe ... „	0 0 9 ...	—

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2¾d. per ft. delivered.
„ fourths	2d. „ „
21 oz. thirds	3¾d. „ „
„ fourths	3d. „ „
26 oz. thirds	4¾d. „ „
„ fourths	3¾d. „ „
32 oz. thirds	5¾d. „ „
„ fourths	5d. „ „
Fluted Sheet, 15 oz.	3¼d. „ „
„ 21 oz.	4¼d. „ „
⅛ Hartley's Rolled Plate	2d. „ „
⅛ „ „ „	2¼d. „ „
¼ „ „ „	2½d. „ „

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 1 6
„ „ „ in barrels	„	0 1 7
„ „ „ in drums	„	0 1 9
Boiled „ „ in pipes	„	0 1 8
„ „ „ in barrels	„	0 1 9
„ „ „ in drums	„	0 1 11
Turpentine, in barrels	„	0 3 4
„ in drums	„	0 3 6
Genuine Ground English White Lead	per ton	19 15 0
Red Lead, Dry	„	19 5 0
Best Linseed Oil Putty	per cwt.	0 6 6
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 0
Fine Elastic Carriage	0 12 6
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 16 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flatting Varnish	0 18 0
White Copal Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 6
Berlin Black	0 16 0
Knotting	0 10 0
French and Brush Polish	0 10 0

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the rate of 19s. per annum (52 numbers) PREPAID. To all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, &c., 26s. per annum. Remittances (payable to J. MORGAN) should be addressed to the Publisher of "THE BUILDER," Catherine-street, W.C.

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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ABERDEEN.—For additions to schools at Logie Durno and Fetternear. Mr. R. G. Wilson, architect, 181A, Union-street, Aberdeen:—

Logie Durno School.

Mason: J. Smith, Kintore
Carpenters: A. & W. Hendry, Wartle
Slater: G. Mitchell, Inverurie
Plasterers: J. & R. Scivewright, Inverurie
Plumbers: J. Blinkie & Sons, Aberdeen
Painters: G. Donald & Sons, Aberdeen
} £370

Fetternear School.

Mason: F. Morrison, Oulter, Aberdeen
Carpenters: A. & W. Hendry, Wartle
Slater: G. Mitchell, Inverurie
Plasterer: R. Moir, Inverurie
Plumbers: J. Blinkie & Sons, Aberdeen
Painters: G. Donald & Sons, Aberdeen
} £410

BAGNALL.—For two concrete sites and laundry machinery and plant at the smallpox hospital, for the North Staffordshire Joint Smallpox Hospital Board. Mr. E. Jones, architect, 10, Albion-street, Hanley:—

Concrete Sites.

Saunders & Torrance	£706	Tompkinson & Betteley	£485
T. Hanley	501	J. Bagnall	470
C. Cornes & Sons	493	J. Moss, Milton*	468

Roads and Paths, Drains, etc.

Saunders & Torrance	£287	Tompkinson & Betteley	£255
C. Cornes & Sons	268	J. Bagnall	242
T. Godwin	256	J. Moss, Milton*	237

Laundry Machinery and Plant.

Hefford & Shuttlewood	£265 0 0	Hill & Herbert	£241 16 6
Jagg & Co.	252 15 0	Summerscales, Keighley*	228 10 0
J. Tullis	252 10 0	Bradford	223 15 0
Cherry Tree Machine Co.	246 10 0		

BARTLEY GREEN.—For erecting a reading-room, for the King's Norton and Northfield Urban District Council. Mr. A. W. Cross, Surveyor, 23, Valentine-road, King's Heath:—

Pugh & Sons, Four Ways, Cradley Heath, Staffs. ... £465

BEAUMARIS.—For improvement works at The Green and at Townsend, for the Town Council. Mr. Evan Thomas, Borough Surveyor, Raglan-street, Beaumaris:—

R. J. Jones	£2,419 14 6	Contracts No. 1 and 2.
J. Owen	1,214 0 0	No. 1 contract.
	313 0 0	No. 2 contract.
J. R. Williams	206 0 0	No. 2 contract.

[The Council have decided to carry out the works themselves.]

BERKHAMSTED.—For a house in Doctor's Commons-road, for Mr. Wm. Pocock. Messrs. C. H. & N. A. Rew, architects, Berkhamsted:—

J. Honour & Son	£692	Nash, Young, & Horne*	£662

BRADFORD.—For erecting a casualty department, boiler house, and two boilers at the Royal Infirmary. Mr. F. Holland, engineer and architect, 11, Parkinson's-chambers, Bradford:—

Mason, etc.—W. R. Booth, Clayton	£1,100 0
Joiners: J. Moulson & Son, Ltd., Bradford	270 0
Plumbers: T. Hill & Son, Bradford	465 0
Plasterers: C. Howroyd & Sons, Bradford	101 15
Ironfounders: S. Parsons & Co., Ltd., Bradford	150 0
Slater: G. Wilkinson, Bradford	44 0
Painter: J. Marsland, Bradford	34 0
Boilers: Holdsworth & Sons, Bradford	550 0

BEOLEY.—For erecting a reading-room, for the King's Norton and Northfield Urban District Council. Mr. A. W. Cross, Surveyor, 23, Valentine-road, King's Heath:—
W. Jackson, Barr-street, Langley, Birmingham £499

BRIDLINGTON.—For electric lighting on Prince's Parade, for the Corporation:—

C. W. Webster	£1,432 3 0	E. S. A. Smith	£428 0 0
British Puson Co.	685 0 0	R. Bailey & Son	398 5 0
Redpath and Wells	645 7 0	A. H. Marshall & Co.	390 0 0
W. E. Dale	615 0 0	Bradford Electrical Engineering Co.	372 2 6
G. Newby	560 0 0	S. Dixon & Son, Ltd., Leeds*	346 0 0
G. P. Cook & Co.	520 0 0		
Clarkson & Co.	446 16 8		

BROMLEY (Kent).—For alterations and additions to the Sundridge Laundry, Scott's-road, for the London United Laundries, Ltd. Mr. C. J. Shaw, architect, 49, Finsbury-pavement, E.C.:—

Gladding & Co.	£775	Carpenter	£623
Crossley & Son	733	Palin & Son, Bromley*	619
Podger & Son	668		

BROMLEY.—For erecting a public library in the High-street, for the Borough Council. Mr. Evelyn Hellicar, architect, 10, Sergeants'-inn, E.C. Quantities by Mr. Stanger, Finsbury-pavement:—

	Library Complete.	Additional if Portland Stone in lieu of Doulting Stone.	Additional if Oak Wood Block Flooring in lieu of Maple.
	£	£ s. d.	£ s. d.
J. C. Arnaud & Son	5,742	135 0 0	118 0 0
Bowman & Sons	5,327	290 0 0	19 0 0
C. Brightman	5,244	165 0 0	70 0 0
E. P. Bulled & Co.	5,756	325 0 0	69 0 0
T. Crossley & Son	6,289	164 0 0	60 0 0
G. H. Denne & Son	5,840	185 0 0	55 0 0
F. P. Duthoit	5,453	161 0 0	52 0 0
J. Ferguson & Co.	6,199	180 0 0	79 5 0
Gann & Co.	5,879	396 0 0	50 0 0
J. S. Hammond & Son	6,355	160 0 0	65 0 0
Holliday & Greenwood, Ltd.	5,654	131 10 0	55 0 0
A. Hudson & Co, Westminster*	4,990	265 0 0	57 10 0
J. Hutchings	6,283	288 0 0	56 0 0
Jones & Andrews	5,354	220 6 0	18 12 0
W. Lawrence & Son	5,450	280 0 0	21 10 0
J. Lonsdale	5,754	173 0 0	54 0 0
R. A. Lowe	6,049	161 0 0	58 0 0
W. Nash	5,675	85 0 0	50 0 0
B. E. Nightingale	5,290	197 0 0	56 0 0
Norman & Burt	5,210	175 0 0	52 0 0
J. Parnell & Son	5,457	224 10 0	60 0 0
D. Payne	5,871	142 0 0	120 0 0
Perry Bros.	5,727	90 0 0	79 0 0
J. Podger & Sons	5,800	135 0 0	55 0 0
J. Quittenton	6,077	169 10 0	50 6 3
W. J. Renshaw	5,227	145 0 0	57 10 0
E. A. Roome & Co.	5,750	150 0 0	50 0 0
J. Shelbourne & Co.	5,743	135 0 0	57 0 0
J. Smith & Sons, Ltd.	5,555	100 0 0	64 0 0
W. Wallis	5,399	152 0 0	51 0 0
Waring White Building Co., Ltd.	5,514	130 2 3	64 12 9

BUCKNALL.—For erecting a mortuary, water storage tank, and steam pump at the infectious diseases hospital, for the Hanley, Stoke, Fenton, and Longton Joint Hospital Board. Mr. E. Jones, architect, 10, Albion-street, Hanley:—

Steam Pump.

Worthington Pump Co.	£586 4 0	Merryweather & Sons	£414 9 9
Hill & Co.	494 19 0	Hartley & Co., Stoke-on-Trent*	346 4 6
Shore & Sons	456 14 6		
Shand, Mason, & Co.	448 9 6		

Concrete Storage Tank.

Cornes & Son	£431	J. Bagnall	£359
Tompkinson & Betteley	429	P. H. Bennion, Longton*	327
T. Godwin	423		

Mortuary.

T. Clarke	£575 12	T. Godwin	£503 0
J. Moss	515 0	P. H. Bennion	496 17
Cornes & Sons	512 0	J. Bagnall	492 0
Tompkinson & Betteley	509 0		

CARLISLE. — For alterations and additions to property in Fisher-street, for the Corporation. Mr. H. C. Marks, City Engineer and Surveyor, 36, Fisher-street, Carlisle:—

J. Hindson	£872 9 0	J. Laing & Son	£775 10 0
J. & R. Bell	830 0 0	J. Baty & Sons	770 0 0
T. Scott	813 0 0	W. Baty	763 5 6
W. Batey	804 0 0	E. J. Hill	756 10 0
J. Beaty	790 0 0	Exors. J. H. Reed	752 0 9
R. M. Hill & Sons	782 10 0	W. Martin	745 11 10
		G. Hill & Sons*	716 18 5

[All of Carlisle.]

CASTLE DONINGTON.—For Wesleyan church, with vestries and lecture hall, for the Trustees. Mr. A. E. Lambert, architect, 22, Park-row, Nottingham:—

J. F. Price	£5,723	W. Maule & Co.	£5,050
J. Hutchinson & Son	5,610	J. Lewin	4,988
Ford & Co.	5,532	T. Barker & Son	4,950
G. Wagg	5,464	J. G. Thomas	4,927
F. Perks & Son, Ltd.	5,342	F. M. Thompson & Sons	4,900
W. Appleby	5,300	J. Young	4,879
J. Walker & Sons	5,296	Pegg & Bailey	4,830
Bradshaw Bros.	5,210	W. Crane, Ltd.	4,793
A. Faulks	5,195	W. Coran & Son	4,769
T. Cuthbert	5,185	J. Liggins	4,759
J. & J. Warner	5,158	T. Barlow & Co., Nottingham*	4,600
H. Vickers & Son	5,091		
H. Green & Sons	5,062		

CARMARTHEN.—For building a new schoolroom, dwelling-house, etc., adjoining Elim Chapel. Mr. John Morgan, architect, Carmarthen:—

I. Richards	£475 0	D. Jones	£383 0
John Brothers	418 0	D. Rees & Sons, Llwyngollen*	379 10

CHISWICK.—For street works adjoining sewage disposal works, Corney Reach, for the Urban District Council. Mr. J. Barclay, Surveyor, Town Hall, Chiswick:—

R. W. Swaker & Co.	£451 8 8	Woodham & Sons	£259 0 0
W. Neave & Son	320 0 0	G. Wimpey & Co., Hammersmith*	257 0 0
Mowlem & Co.	268 0 0		
W. Wheeler	267 11 0		
Greenham & Sons	265 0 0		

DARTFORD.—For erecting additional buildings at Joyce Green Hospital, for the Metropolitan Asylums Board. Messrs. A. & C. Harston, architects, 15, Leadenhall-street, London, E.C. Quantities by Messrs. W. H. Barber & Son, 22, Buckingham-street, Adelphi, W.C.:—

Leslie & Co., Ltd.	£8,516 0 0	Enness Bros.	£7,281 0 0
Gann & Co.	8,184 0 0	T. J. Hawkins & Co.	7,274 9 5
F. Miskin, Ltd.	7,927 10 0	Waring White Building Co., Ltd.	7,253 0 0
A. N. Coles	7,924 17 1	Kerridge & Shaw	7,188 0 0
W. Johnson & Co., Ltd.	7,800 0 0	W. F. Blay	7,058 19 7
Friday & Ling	7,777 17 1	W. Smith & Sons, 202, London-rd., Croydon*	6,786 0 0
T. Cole	7,726 18 8		
H. Goodwin	7,591 1 7		
E. Lawrance & Sons	7,491 0 0		
B. E. Nightingale	7,325 0 0		

DEVONPORT.—For levelling, paving, and completing lane rear of east side of Harbour-avenue, for the Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport. Quantities by Surveyor:—

Pearce Bros.	£110 0 0	E. Duke	£92 17 7
Hortop Bros.	107 12 6	J. F. Donne	88 9 10
Jefford & Sons	94 0 9	Pethick Bros., Plymouth*	88 8 0
T. Dorey	93 9 7		

DEVONPORT.—For levelling, paving, and completing lane between Harbour and Homoaze avenues, for the Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport. Quantities by Surveyor:—

Pearce Bros.	£122 3 0	Pethick Bros.	£97 18 6
E. Duke	103 3 0	J. F. Donne, St. Budeaux*	97 12 3
Jefford & Sons	105 3 11		
T. Dorey	103 17 10		

DEVONPORT.—For levelling, paving, and completing Rodney-street, for the Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport. Quantities by Borough Surveyor:—

T. Dorey	£143 8 8	Jefford & Sons	£118 5 4
Pearce Bros.	132 18 0	J. F. Donne, St. Budeaux*	115 6 1
E. Duke	120 17 10		

DEVONPORT.—For levelling, paving, and completing lane at south end of Harbour and Homoaze avenues, for the Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport. Quantities by Borough Surveyor:—

Pearce Bros.	£262 17 0	Pethick Bros.	£211 14 0
Jefford & Sons	225 17 4	J. F. Donne, St. Budeaux*	211 5 3
E. Duke	223 0 7		
T. Dorey	221 15 6		

DEVONPORT.—For levelling, paving, and completing lane at the rear of west side of Homoaze-avenue, for the Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport. Quantities by Surveyor:—

J. F. Donne	£205 6 10	Pethick Bros.	£154 9 0
Pearce Bros.	192 10 0	E. Duke, Plymouth*	153 10 6
Jefford & Sons	163 7 0		
T. Dorey	159 16 3		

DEVONPORT.—For levelling, paving, and completing Homoaze-avenue, for the Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport. Quantities by Surveyor:—

Pearce Bros.	£265 7 0	J. F. Donne	£239 14 4
T. Dorey	252 19 4	E. Duke, Plymouth*	234 14 6
Jefford & Sons	241 15 6		

DEVONPORT.—For levelling, paving, and completing Harbour-avenue, for the Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport. Quantities by Surveyor:—

Pearce Bros.	£205 9 0	Jefford & Sons	£184 9 6
J. F. Donne	201 9 11	Hortop Bros., Plymouth*	173 17 9
T. Dorey	198 0 9		
E. Duke	189 12 6		

DORCHESTER.—For erecting a new post-office for the Commissioners of H.M. Works and Public Buildings:—

		Alternative Tender for Shamrock Stone.
J. W. & H. Childs*	£5,407 0	£5,387 0 0
A. J. Colborne	5,494 0	5,478 3 0‡
East & Hyde	5,599 0	5,587 18 0
J. J. Lovell	5,625 0	5,605 0 0
H. Pittard & Son	5,626 0	5,626 0 0
J. Long & Sons	5,777 0	5,782 0 0
Bird & Pippard	5,850 0	5,832 0 0
R. Davis & Son	5,949 7	5,823 0 8
Musselwhite & Sapp	5,990 0	5,978 0 0
Wakeham Bros.	5,995 0	5,973 0 0
The Ham-Hill & Doulting Stone Co., Ltd.	6,126 0	6,129 0 0§
C. E. Slade	6,177 0	6,163 0 0
Wort & Way	6,190 0	6,179 0 0
Jesty & Baker	6,228 12	6,278 12 0
H. Stevens & Co.	6,288 0	6,198 0 0
F. Merrick & Son	6,544 0	6,544 0 0‖
Pethick Bros.	7,244 0	7,209 0 0¶
F. Hoare & Sons	8,768 0	8,888 0 0

‡ Credit old materials, 4*l.*; § credit old materials, 10*l.*; ‖ credit old materials, 5*l.*; ¶ credit old materials, 4*l.*

DEVONPORT.—For levelling, paving, and completing lane between Victory and Renown streets, for the Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport. Quantities by Surveyor:—

Pearce Bros.	£394 16 0	J. F Donne	£303 19 6
E. Duke	321 4 8	Pethick Bros., Plymouth*	295 6 6
Jefford & Sons	320 10 9		
T. Dorey	311 7 6		

ENFIELD.—For 550 lineal yds. of wrought-iron fencing, for the Urban District Council. Mr. R. Collins, Surveyor, Public Offices, Enfield:—
W. J. Mulling, St. Agnes Ironworks, St. Agnes-road, Bristol ..... £176 9 2‡
‡ 550 lineal yds. at 6s. 5d.

FARNBOROUGH (Kent).—For the erection of three cottages, for Mr. W. H. Hinks. Mr. Money Marsland, architect, 68, Great Tower-street, E.C.:—
W. Owen* £750

FRASERBURGH.—For erecting an isolation hospital, for the Town Council. Mr. W. Reid, architect, Saltoun-square, Fraserburgh:—

Plasterer: W. McDonald, Fraserburgh*	£625 11 9
Mason: G. Corbet, New Pitsligo*	2,200 0 0
Slater: J. Reid, Fraserburgh*	284 17 7
Joiner: J. Shirran, Fraserburgh*	1,054 0 0
Plumbers: Ferguson & Co., Fraserburgh*	658 0 0
Painter: J. Stuart, Fraserburgh*	183 10 0

HEMEL HEMPSTED.—For a block of four houses and shops, for Mr. Walter Grover. Messrs. C. H. & N. A. Rew, architects, Great Berkhamsted:—

E. Horn & Son	£2,420	S. C. Smith	£2,275
W. Sear	2,410	J. Honour & Son*	2,095

LONDON EDUCATION COMMITTEE TENDERS.

Wandsworth, Dunt's-hill (Heating Apparatus).

J. Fraser & Son, Ltd.	£1,249 0	Wippell Bros. & Row	£855 0
Wenham & Waters, Ltd.	1,167 0	J. Defries & Sons, Ltd.	835 0
Purcell & Nobbs	993 0	B. Harlow & Son	807 0
W. G. Cannon & Sons	950 0	O. Kite & Co.	785 0
Mackenzie & Moncur, Ltd.	924 0	R. Dawson & Co., Ltd.	739 0
Strode & Co.	887 0	J. & F. May, 33-35, Whetstone-park, Lincoln's-inn-fields*	720 0
Wontner-Smith, Gray, & Co.	859 10		

Wandsworth, Oak Lodge (Precautions against Fire).

Fireproof floor and a teak staircase at Oak-lodge, Nightingale-lane, Wandsworth, at an expenditure not exceeding 155*l.*, the work to be executed as an extra on the contract of Mr. E. Triggs, who is executing the alterations on the premises.

Hackney, N., Delmold-road (Sanitary and Drainage Works).

Ashby Bros.	£2,921	J. Peattie	£2,435
McCormick & Son	2,734	A. Porter	2,390
G. Munday & Sons	2,516	E. Lawrance & Sons	2,386
A. E. Symes	3,489	L. H. & R. Roberts	2,365
G. S. S. Williams & Son	2,473	Stevens Bros.	2,314
Lathey Bros.	2,455	F. Bull, 31, Old Hill-street, Upper-Clapton*	2,246
J. Willmott & Sons	2,442		

[The architect's estimate comparable with these tenders is £2,477.]

Hackney, S., Daubeney-road (Sanitary and Drainage Work).

A. E. Symes	£2,675	G. S. S. Williams & Son	£2,313
A. Porter	2,559	E. Lawrance & Sons	2,251
McCormick & Son	2,519	J. Peattie	2,217
Durbin & Katesmark	2,463	Stevens Bros.	2,207
J. Willmott & Sons	2,416	L. H. & R. Roberts	2,101
Lathey Bros.	2,405	F. Bull, 31, Old Hill-street, Upper Clapton*	2,075
G. Munday & Sons	2,352		

LONDON.—For converting two houses into a maternity hospital and college for training midwives, Woolwich, for Miss Gregory. Mr. H. O. Thomas, architect and surveyor, Woolwich:—

Shaw	£1,035	Thomas & Edge	£853
Stephens	970	Champion‡	830

‡ Accepted subject to modification.

LONG EATON.—For erecting a Primitive Methodist church. Messrs. George Baines & R. Palmer Baines, architects, 5, Clement's-inn, Strand, London, W.C.:—
J. Bull, Cobden-street, Long Eaton* £2,534 5 0‡
‡ Estimates A., B., and I.

MANUDEN (Essex).—For erecting an iron girder bridge at Common Mead, for the Stansted Rural District Council. Mr. C. Hicks, Surveyor, Stansted, Essex:—
D. Robinson, jun., Stansted, Essex £155

NEWBRIDGE (Ireland).—For waterworks, for the Naas No. 1 Rural District Council. Mr. F. Bergin, C.E., Beech-grove, Kildare:—

Sunlight Gas and Engineering Co.	£4,384 9 0	P. Blake	£3,998 0 0
J. Taylor	4,363 0 0	J. Graham	3,954 14 4
A. Hull & Co.	4,142 1 7	J. L. Johnstin	3,744 12 4
McKee & McNally	4,055 17 10	P. Sheridan	3,377 4 11
J. Kennedy	4,019 4 3	W. Baird	3,559 2 11
J. Cullen	4,000 0 0	J. Kelly, Parliament-st., Kilkenny*	3,262 1 5

NOTTINGHAM.—For road works, Richmond-drive, Warwick-road, and Woodland-drive. Mr. W. Dymock Pratt, architect and surveyor, Long-row, Nottingham:—

J. T. Price	£2,588 0 0	Whitelocke s, Ltd.	£1,842 0 0
C. E. Cox & Co.	2,083 4 0	J. Thraves & Son	1,800 0 0
Bower Bros.	1,998 0 0	G. M. Kerry	1,764 0 0
S. Thumbs	1,990 0 0	J. H. Harper, Carlton, Notts*	1,650 0 0
J. Hawley & Son	1,910 18 6		
J. H. Vickers	1,883 0 0		

TENDERS.—*Continued on page* 281.

COMPETITIONS AND CONTRACTS.

(For some Contracts, etc., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Required.	Premiums.	Designs to be Delivered
*Plans for Public Elementary School	Swindon Education Committee	5 per cent. commission	April 14
*Proposed Technical Institute	Rochester Corporation	50, 20, and 10 Guineas	May 15

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tenders, etc., supplied by	Tenders to be Delivered
Four Houses, Toller-lane, Bradford	.....	J. W. C. Atkinson, Architect, 1, Ivegate, Bradford	Mar. 13
Public Convenience, Allensbank-road, Cathays	Cardiff Corporation	W. Harpur, Borough Engineer, Cardiff	do.
Scavenging	Earsdon U.D.C.	J. R. MacMillen, Council Office, Shiremoor	do.
Whinstone, Slag, Team Labour	do.	A. Dale, Clerk, 85 and 86, Howard-street, North Shields	do.
Mason, Wright, Plumber, Gasfitter, etc., Work	Edinburgh Corporation	Superintendent of Works, Royal Exchange, Edinburgh	do.
Repairs of Pavements, Granolithic Work, etc.	do.	City Road Surveyor, City-chambers, Edinburgh	do.
Cast and Wrought-Iron and Steel Material, etc.	do.	Resident Electrical Engineer, Dewar-place, Edinburgh	do.
Materials and Stores	do.	Inspector of Cleaning and Lighting, 331, High-street, Edinburgh	do.
Gun Metal, etc., Fire Appliances	do.	Firemaster, Lauriston-place, Edinburgh	do.
880 lin. yds. Fireclay Pipe Sewers, etc., Bonnybridge	East. C'ties. Com., Sterlingshire C.C.	Warren & Stuart, C.E., 94, Hope-street, Glasgow	do.
Tools	Berkshire C.C.	J. F. Hawkins, County Surveyor of Highways, Reading	do.
Carting, etc.	do.	do.	do.
Annual Contracts	Hale U.D.C.	T. Blagburn, Surveyor, Ashley-road, Hale	do.
Private Improvement Works, Emscote-grove	Halifax Highways Committee	J. Lord, C.E., Town Hall, Halifax	do.
375,000 Jarrah Wood Paving Blocks	Hastings Corporation	P. H. Palmer, Borough Engineer, Town Hall, Hastings	do.
150,000 Wood Paving Blocks	do.	do.	do.
Broken Guernsey Granite	Milton-next-Sittingbourne U.D.C.	W. R. Warlow, Town Hall, Milton	do.
*Additions to Stores and Workshops, Fulham	Metropolitan Asylums Board	Office of the Board, Embankment, E.C.	do.
Street Works, Bewdley-road, Selby Oak	King's Norton, etc., U.D.C.	A. W. Cross, Surveyor, 23, Valentine-road, King's Heath	Mar. 14
Erecting a River Wall, Brazil-street, Broughton	Salford Corporation	Borough Engineer's Office, Town Hall, Salford	do.
Timber and Ironwork for Verandah	do.	do.	do.
2-in. Flags	Belfast Works Department	Superintendent of Works Office, Townhall-street, Belfast	do.
Excavating and Laying Foundations, Percy Main	Tynemouth Corporation	J. F. Smithe, Borough Surveyor, North Shields	do.
Excavg., Lay. Foundation, Preston Cemty., N. Shields	do.	do.	do.
Materials, Stores, etc.	Newcastle-on-Tyne Corporation	City Engineer's Office, Town Hall, Newcastle-on-Tyne	do.
Cast-Iron Pipes, Valves, etc., Cray Reservoir Works	Swansea Town Council	R. H. Wyrill, Waterworks Engineer, Guildhall, Swansea	do.
Creosoted Pine Sleepers	Secretary of State for India	Director General of Stores, India Office, Whitehall, S.W.	do.
Extension of Gas Mains to Wrecclesham	Farnham Gas Co.	Company's Office, East-street, Farnham	do.
Materials and Jobbing Works	Ipswich Sanitary Authority	E. Buckham, Borough Surveyor, Town Hall, Ipswich	do.
Earthenware Pipe Sewers, Cottingley	Bingley District Council	R. Armistead, Engineer, 8, Charles-street, Bradford	do.
Two Electric Motors (Main Drainage Works)	Dublin Corporation	Engineer's Office, City Hall, Dublin	do.
Diphtheria Pavilion, Infectious Hosp., Morton Banks	Keighley, etc., Hospital Board	Moore & Crabtree, Architects, York-chambers, Keighley	Mar. 15
Stores	Halifax Gas Committee	J. Wilkinson, Engineer, Gasworks, Halifax	do.
Ironwork for Bridge over Low Beck, Staincross-place	Leeds Corporation	City Engineer's Office, Leeds	do.
Abutments for Bridge over Low Beck	do.	do.	do.
Sixteen Water Closets, Ark-street and Grand-street	do.	do.	do.
Forming Road, East-end Park (adjoining)	do.	do.	do.
Setts, etc.	Rochdale Paving, etc., Committee	Borough Surveyor's Office, Town Hall, Rochdale	do.
3,000 yds. of Sewers and Surface Water Drains	Chepping Wycombe Corporation	T. J. Rushbrooke, Borough Surveyor, 77, Easton-st., High Wycombe	do.
Sewerage Works, Birr	Birr U.D.C.	F. Bergin, Engineer, 36, Westmoreland-street, Dublin	do.
Materials and Stores, Gas and Water Department	Rhondda U.D.C.	O. Thomas, Gas and Water Offices, Pentre, Glam.	do.
Stores	Leeds Tramways Committee	J. B. Hamilton, Tramway Offices, City-square, Leeds	do.
Timber	Manchester Cleansing Committee	R. Williamson, Town Hall, Manchester	do.
Road Materials	Cranbrook R.D.C.	T. H. Crampton, Clerk, Cranbrook, Kent	do.
Three Iron Staircases, Union Workhouse, Barham	Bosmere and Claydon Guardians	R. M. Cook, Clerk, 6, Providence-street, Ipswich	Mar. 16
Three Shops, Offices, and Workrooms	Pontefract Indus. Co-operative Soc.	Garside & Pennington, Architects, Pontefract	do.
Plant for Municipal Electricity Works	Gloucester Electricity Supply Com.	G. S. Blakeway, Guildhall, Gloucester	do.
Stores	Leeds Sewerage Committee	City Engineer, Leeds	do.
Twenty-two Cottages at Park Hill, Tredegar	Inkerman Lodge Building Club	W. Beddoe Rees, Architect, 3, Dumfries-place, Cardiff	do.
Stores	Preston Corporation	J. Barron, Engineer, Dock Offices, Preston	Mar. 17
Road Materials	Rothwell U.D.C.	J. Southwart, Surveyor, Council Offices, Rothwell	do.
Sinking Well, etc., at Massington Pumping Station	Ledbury U.D.C.	R. G. Gurney, Surveyor, Worcester-road, Ledbury	do.
7,500 tons of Macadam	Hull Corporation	A. E. White, City Engineer, Town Hall, Hull	do.
3¾ miles of Sewers (Manchline Sewerage)	Kilmarnock District Committee	J. Sturrock, jun., Engineer, 65, King-street, Kilmarnock	do.
Dondonald Water and Sewerage Works	do.	do.	do.
New Royal Naval Reserve Buildings, Portree	Admiralty	Director of Works Department, 21, Northumberland-avenue, W.C.	do.
Stores	Bury Gas Committee	H. Simmonds, Engineer, Gasworks, Bury	Mar. 18
Road Metal	Spennymoor U.D.C.	C. R. Spencer, Surveyor to Council, Spennymoor	do.
Parish Hall at Beaufort	Rev. D. J. Llewelyn	H. Waters, Architect, Beaufort	do.
Double Vertical Steam Fire Engine	Rotherham Corporation	Chief Constable, Town Hall, Rotherham	do.
Motor Balancer for Electric Light Station	do.	Electrical Engineer, Rawmarsh-road, Rotherham	do.
Club Premises at Nelson	Balfour Constitutional Club	A. O. Evans, Williams, & Evans, Architects, Pontypridd	do.
Bungalow at Hutchins, Porthcawl	Mr. T. D. Bevan	G. F. Lambert & Son, Architects, Bridgend	do.
Inspector's House and Office, etc., at Chester-le-Street	Weardale and Consett Water Co.	Company's Office, Front-street, Chester-le-Street	do.
Stores	Leeds Waterworks Committee	City Engineer's Waterworks Office, Leeds	do.
Works and Materials	Paddington Borough Council	Borough Surveyor, Town Hall, Paddington, W.	do.
Roads, Fencing, etc. (Public Park)	Lochgelly Town Council	Buchanan & Bennett, C.E., 12, Hill-street, Edinburgh	do.
Road Materials, etc.	Bucklow R.D.C.	J. Burgess, Tabley, Knutsford	Mar. 20
Hauling and Quarrying Stone	Long Ashton R.D.C.	J. Hawkins, District Surveyor, Brockley, near Bristol	do.
Sinking and Lining a Well, 100 ft. deep	do.	A. P. I. Cotterell, Engineer, 28, Baldwin-street, Bristol	do.
Testing Supply of Water	do.	do.	do.
Alterations to Female Epileptic Block at Infirmary	Birmingham Guardians	W. H. Ward, Architect, Paradise-street, Birmingham	do.
Additional Sewers	Knottingley U.D.C.	Garside & Pennington, Architects, Pontefract	do.
C'taker's Lodge, etc., Rbt. Ferguson Schls., Denton-st.	Carlisle Education Committee	H. C. Marks, Surveyor, 36, Fisher-street, Carlisle	do.
Sewage Disposal Works at Stourton	Rothwell U.D.C.	E. J. Silcock, Engineer, 10, Park-row, Leeds	do.
Pumping and Screening Machinery	do.	do.	do.
Cast-Iron Tank	Hemsworth R.D.C.	T. H. Richardson, Hemsworth, near Wakefield	do.
Stone	Sculcoates R.D.C.	A. Greaves, Surveyor, Woodbine Villa, Hessle	do.
Painting Work at Cemeteries	Oxford Corporation	City Engineer, Town Hall, Oxford	do.
Granite	Wellingborough R.D.C.	W. Jackson, Clerk, Wellingborough	do.
Excavating and Laying Sidings at Pengam	Rhymney Iron Co.	At the Offices, Rhymney	do.
Extension of Bridge at Pengam Pits	do.	do.	do.
Additions, etc., Maindy School, Cowbridge	Glamorgan Education Committee	T. M. Franklin, Clerk to County Council, Westgate-street, Cardiff	do.
Fire Station, Bordesley-green	Birmingham Watch Committee	J. Price, City Engineer, Council House, Birmingham	do.
Materials	Pontefract R.D.C.	J. Dickson Smith, Clerk, Union Offices, Pontefract	do.
Widening Road at Bargoed	Gelligaer and Rhigos R.D.C.	J. P. Jones, Engineer, Hengoed, via Cardiff	do.
Vicarage House and Stabling, Maesteg	Rev. S. Jackson	Cook & Edwards, Architects, Masonic-buildings, Bridgend	do.
Road Material	Maidstone U.D.C.	T. F. Bunting, Surveyor, Fair Meadow, Maidstone	do.
Granite	Kingston Guardians (Surrey)	J. Edgell, Union Offices, Norbiton, Kingston-on-Thames	do.

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, etc., supplied by	Tenders to be Delivered
Annual Contracts	Southgate U.D.C.	C. G. Lawson, Surveyor, Council Offices, Palmer's Green, N.	Mar. 20
Materials	Darlington Corporation	G. Winter, Borough Surveyor, Town Hall, Darlington	do.
Steel and Concrete Balconies	Dublin Public Health Committee	City Treasurer's Office, Dublin	do.
10 miles C.-I. Mains & Concrete Reservoir, Baltonsboro.	Wells R.D.C.	A. G. Russ, Clerk, Poor Law Offices, High-street, Wells	Mar. 21
Granite, Slag, and Gravel	Ely R.D.C.	E. R. Ennals, District Surveyor, Lynn-road, Ely	do.
3,700 yds. of Cast-Iron Pipes	Evesham Town Council	R. C. Mawson, Borough Surveyor, Town Hall, Evesham	do.
Seven Villas at Maindy, Pentre	Maindy Building Club	W. D. Morgan, Architect, Victoria-chambers, Pentre, Glam.	do.
Loop Line (51 chains) at Landore, near Swansea	Great Western Railway Co.	Office of Engineer, Neath Station	do.
*Office Accommodation at Paddington Station, W.	do.	Engineer's Office, Paddington Station, W.	do.
Builders' and Cabinetmakers' Work, Sessions House	Standing Joint Committee	County Architect, 86, Week-street, Maidstone	do.
Heating and Ventilating, Crown Court, Sessions House	do.	do.	do.
3,000 tons of Granite Macadam	Runcorn R.D.C.	G. F. Ashton, 71, High-street, Runcorn	do.
Granite	Diss U.D.C.	A. Cooper, Surveyor, The Terrace, Diss	do.
*Wood Paving	Willesden District Council	Council's Engineer, Dyne-road, Kilburn, N.W.	do.
*Levelling and Tar-paving Playgrounds	Ilford U.D.C.	C. J. Dawson, Architect, 11, Cranbrook-road, Ilford	do.
*Additions, etc., to Schools	Wood Green U.D.C. Educa. Comm.	C. J. Gunyon, Architect, Town Hall, Wood Green, N.	do.
Road Materials	Hoo R.D.C.	R. P. Smyth, Clerk, Strood	Mar. 22
Team Labour and Annual Contracts	Bredbury and Romiley U.D.C.	Surveyor, School Brow, Bredbury	do.
Road Material	Mutford and Lothingland R.D.C.	S. G. Bloy, Surveyor, Oulton Broad, Lowestoft	do.
Repaving Cattle Market, Northampton	Northampton Corporation	A. Fidler, Borough Engineer, Guildhall, Northampton	do.
*New Sewers and Underpinning and Repairs	Holborn Borough Council	Municipal Offices, 197, High Holborn, W.C.	do.
*Cleaning and Painting at Downs School, Sutton	Metropolitan Asylums Board	Office of the Board, Embankment, E.C.	do.
Road Materials	Lanchester R.D.C.	W. Cummings, Surveyor's Office, Lanchester, Durham	Mar. 23
Steel Trough Bridge at Runcorn	Manchester Ship Canal	W. H. Hunter, M.Inst.C.E., 41, Spring-gardens, Manchester	do.
Picking Belts, Oriental Merthyr Colliery, Pontycymmer	.....	W. Johnson, Manager, Pontycymmer, near Bridgend	do.
Stores	Aston Manor Public Works Sub-Com.	G. H. Jack, Borough Surveyor, Council House, Aston Manor	do.
Waterworks Plant	Peterborough Corporation	J. C. Gill, Waterworks Engineer's Office, Peterborough	do.
Reconstruction of Existing Tramways	Aston Manor Corporation	R. Green, Engineer, 37, Waterloo-street, Birmingham	Mar. 24
Works in connexion with Tramways	do.	do.	do.
Materials	Heywood Corporation	J. A. Settle, Borough Engineer, Heywood	Mar. 25
Tiled Dados, Alfred-st. Municipal Schools, Harpurhey	Manchester Education Committee	Education Office, Deansgate, Manchester	do.
Sixty-five Cottages at Ynyshir	Standard View Building Club	Teather & Wilson, Architects, Andrew's-bldgs., Queen-st., Cardiff	do.
Cartage of Road Material	Darlington R.D.C.	J. Robinson, District Surveyor, Union Offices, Darlington	do.
Annual Contracts	Gillingham Town Council	J. L. Redfern, Boro' Engr., Corporation Offices, Gillingham, Kent	do.
Police Station at Teignmouth	Standing Jt. Com., County of Devon	E. H. Harbottle, County Surveyor, Queen-street, Exeter	Mar. 27
One Lancashire Boiler	Keighley Electricity Committee	J. M. Smyth, Borough Electrical Engineer, Keighley	do.
One 300-kw. Direct Current Steam Dynamo	do.	do.	do.
Additions to Lloyd-st. & Mulberry-st. Schools, Hulme	Manchester Education Committee	Education Offices, Deansgate, Manchester	do.
Materials and Team Labour	Clayton-le-Moors U.D.C.	A. Dodgeon, Surveyor, Council Offices, Clayton-le-Moors	do.
Sewer, Pollokshaws (Sewer No. 1)	Glasgow Corporation	City Engineer, 64, Cochrane-street, Glasgow	Mar. 28
Sewer across River Cart (Sewer No. 15)	do.	do.	do.
Heating part of Bulle Hill House	Salford Corporation	Borough Engineer's Office, Town Hall, Salford	do.
Shere and Gomshall Sewerage	Guildford R.D.C.	W. S. V. Cullerne, Clerk, Council Offices, Commercial-rd., Guildford	do.
Road Material	Malling R.D.C.	J. Marshall, Surveyor, West Malling	do.
*Furniture and Fittings for Library	Hammersmith Borough Council	Town Clerk, Town Hall, Hammersmith	do.
Stores	Dorchester Town Council	Borough Surveyor, Dorchester	Mar. 29
*Branch Library, Lillie-road	Fulham Borough Council	Council's Engineer, Town Hall, Fulham, S.W.	do.
*Roadmaking and Paving Works	do.	Borough Surveyor, Town Hall, Fulham, S.W.	do.
Livesey Washer & Rotary Washer Scrubber, Gaythorn	Manchester Gas Committee	C. Nickson, Gas Department, Town Hall, Manchester	Mar. 30
Cooling Tower and Condensing Apparatus	Bolton Electricity Committee	A. A. Day, Borough Electrical Engineer, Spa-road, Bolton	do.
290 yds. Wrought-Iron and Steel Unclimbable Fencing	Oldbury U.D.C.	J. T. Eayrs, C.E., 39, Corporation-street, Birmingham	do.
South Featherstone Sewage Disposal	Featherstone U.D.C.	G. & F. W. Hodson, Engineers, Loughborough	Mar. 31
Ninety to 100 Houses at New Tredegar	Powell Duffryn W'kmen's Bldg. Soc.	G. Kenshole, Architect, Station-road, Bargoed	do.
*New Mortuary Building, Brentwood Asylum	Essex County Lunatic Asylum	F. Whitmore, Architect, Duke-street, Chelmsford	April 1
One Horizontal Non-condensing Steam-Engine	Birmingham Baths Committee	J. Cox, Superintendent Engineer, Kent-street, Birmingham	April 8
One Set of Treble Deep-Well Lifting Pumps	do.	do.	do.
Two Steel Steam Boilers	do.	do.	do.
One large Cast-Iron Cold Water Storage Tank	do.	do.	do.
Two Wrought-Iron Galvanised Tanks, etc.	do.	do.	do.
Two Special Steam Heaters, Mosley-road Baths	do.	do.	do.
Alterations to Liverpool Arms, English-st., Carlisle	Mr. W. Scott	Oliver & Dodgshun, Architects, Carlisle	No date.
Shop and Warehouse, St. Cuthbert's-lane	do.	do.	do.
Laundry for Crown and Mitre Hotel	do.	do.	do.
Two Shops and Premises, Doncaster	.....	J. Athron, Architect, 10, Priory-place, Doncaster	do.
Eight Cottages at Hatfield Woodhouse	.....	do.	do
Painting Industry Mill and Shed, Bradford	.....	Manager (T. Bower), Sugden-street, Thornton-road, Bradford	do.
Digging and Removing 2,000 Loads of Soil	Holy Trinity Schools, Guildford	W. G. Lower, Architects, 12A, High-street, Guildford	do.
Weaving Shed, etc., Radcliffe	Radcliffe Room and Power Co.	W. H. Atkinson, Architect, Shaw-street, Colne	do.
*Assembly Hall and Classroom, Enfield	.....	Davidson & Phillipson, 148, Aldersgate-street, E.C.	do.
*Lecture Hall, etc., Hanwell	.....	W. G. Tutt, Architect, 18, Ironmonger-lane, Cheapside, E.C.	do.
*Semi-detached Houses, Purley, Surrey	.....	H. W. Pratt, Architect, 10, Serjeant's-inn, Fleet-street, E.C.	do.
*Semi-detached Houses, Beckenham	.....	J. Carter Jonas & Sons, Cambridge	do.

Those marked with an (*) are advertised in this number. *Competitions*, iv. *Contracts*, iv. vi. viii. x. *Public Appointments*, —.

TENDERS—*Continued from page* 279.

NOTTINGHAM.—For erecting four residences (two with saleshops) in Colwick-road and Meadow-lane, Nottingham. Mr. H. Allcock, architect, Nottingham:—

F. Messom	£1,825 0 0	G. A. Pillatt	£1,661 0 0
J. H. Vickers	1,799 10 0	T. Barlow	1,660 0 0
H. Vickers & Son	1,793 0 0	W. & J. Simons	1,655 0 0
Brooks Bros.	1,789 0 0	G. Lovett	1,650 0 0
J. G. Thomas	1,783 0 0	Richardson & Hewerdine	1,629 10 0
G. Kerry	1,774 0 0	T. Fish & Son*	1,615 0 0
T. Whittaker	1,750 0 0	W. Crane, Ltd.	1,598 0 0
F. Wright	1,725 10 3	J. Wright	1,595 0 0
A. B. Clarke	1,720 0 0		
F. Booth	1,714 14 10		
J. G. Short	1,697 0 0		

OSSETT.—For laying 1,000 lineal yds. of 12-in. earthenware pipe sewer (Roundwood outfall), for the Corporation. Mr. W. Hirst, Borough Surveyor, 1, New-street, Ossett:—

J. Williams & Co.	£1,020 2 0	A. Graham & Sons, Ltd.	£440 0 0
S. Deeley & Co.	900 0 0	Garforth Bros.	616 19 0
Allatt & Spencer	879 0 0	M. Arundale	609 1 0
J. Holdsworth	875 0 0	T. Williams	601 6 5
Peace & Oldroyd	820 0 0	D. Ellis	600 9 10
J. Pickersgill	670 19 0	S. Coop & Son	600 0 0
E. Long	660 0 0	W. Doleman	599 2 0
Naylor & Son	647 0 0	Wilson Bros.	531 8 6
		J. Oliffe	493 8 4
		T. Wade	493 3 9
		H. Arnold & Son, Leeds*	469 0 0

PONTYPRIDD.—For laying 13,200 square yds. of tar-paving in various playgrounds, for the Education Committee of the Urban District Council. Mr. P. R. A. Willoughby, Engineer and Surveyor to the Council:—

North of England Asphalt Co., Manchester £1,367 9 10

PENARTH.—For street improvement works in Windsor-place, Archer-place, etc., for the Urban District Council. Mr. E. I. Evans, Surveyor, Council Offices, Penarth:—

—	Archer-terrace-lane.	Archer-place.	Windsor-place.
	£ s. d.	£ s. d.	£ s. d.
F. Ashley	82 9 6	200 2 9	204 1 3
Mackay & Davies	81 12 9	190 2 9	188 9 1
W. Jenkins	81 4 0	193 0 0	180 3 0
A. G. Collens & Co.	80 12 9	187 13 9	187 12 0
W. Burton	80 8 6	179 7 5	183 12 0
J. Rich*	70 7 4	162 9 5	178 19 7

RAGLAN.—For alterations and additions to National Schools, for the managers. Mr. W. H. D. Caple, architect, Church-street-chambers, Cardiff:—

J. Edwards & Son	£393 0 0	G. Jones	£310 0 0
Gwatkin Bros.	378 17 11	R. Jones, Raglan‡	310 0 0
H. Woolley & Son	361 5 0		

‡ Subject to revision with the architect.

REDHILL.—For rebuilding Station Hotel, South Nutfield, for Messrs. Mellersh & Neale, Ltd. Mr. E. Penfold, architect, High-street, Reigate:—

C. Parsons	£1,830	J. Waycott	£1,505
T. Bashford	1,649	J. J. Pink	1,491
W. F. Wilkinson	1,580	G. Martin	1,490
A. King & Son	1,516	G. Elsey & Sons	1,400

REIGATE.—For the erection of business premises, West-street, Reigate, for Messrs. W. Charlwood & Sons. Mr. E. Penfold, architect, High-street, Reigate:—

R. Lee & Son	£2,700	J. Hodge & Son	£2,214
J. Waycott	2,595	S. Jeal	2,130
G. Cummins & Sons	2,450	T. Nightingale	2,129
G. Elsey & Sons	2,217		

REIGATE.—For additions to Reigate Grammar School, for the Governors. Mr. E. Penfold, architect, High-street, Reigate:—

A. B. Wiles	£7,561 0 0	G. Cummins & Sons	£7,239 0 0
T. Bushby & Son	7,559 0 0	J. Hodge & Son	7,163 0 0
J. King & Son.	7,534 0 0	J. J. Pink	6,983 17 2
Buckland & Waters	7,480 0 0	S. Jeal	6,637 0 0
J. Longley & Co.	7,398 0 0		

REIGATE.—For erection of Children's Homes, Meadvale, Redhill, for the Guardians, Reigate Union. Mr. E. Penfold, architect, High-street, Reigate. Quantities by Messrs. John Leaning & Sons:—

A. B. Apted	£3,444 0	W. Wickman	£2,923 16
G. Cummins & Sons	3,342 0	T. Nightingale	2,973 0
J. Waycott	3,163 12	S. Jeal	2,945 0
C. Parsons	3,010 0	G. Martin	2,784 0
J. Childs	3,000 0	J. Hodge & Son	2,632 0
		G. Elsey & Sons	2,625 0

REIGATE.—For entrance lodge, vagrant wards, receiving wards, workshops, mortuary, and alterations to existing buildings at the Workhouse, for the Guardians, Reigate Union. Mr. E. Penfold, architect, High-street, Reigate. Quantities by Messrs. John Leaning & Sons:—

R. Deau & Co.	£17,580	Holliday & Greenwood	£14,919
H. Lovatt, Ltd.	16,937	Cropley Bros.	16,483
J. Longley & Co.	14,919	J. Smith & Sons	16,420
Walter Wallis	14,727	T. Bushby & Sons	16,057
Goddard & Sons	14,418	G. Martin	15,946
Akers & Co.	14,324	F. G. Minter	15,649
W. Smith & Sons	13,925	Turtle & Appleton	15,286
R. B. Amos	13,820	H. Lindfield & Son	15,257
Martin, Wells, & Co.	13,775	Potter Bros.	15,080
J. J. Pink	13,634	Kingerlee & Son	15,052
Norman & Burt	13,558	Grace & Marsh	15,006
Samuel, Page, & Son	13 538	F. Gough & Co.	14,958

REIGATE.—For rebuilding coach builder's premises, Bell-street, Reigate, for Mr. Frank Burtenshaw. Mr. E. Penfold, architect, High-street, Reigate:—

W. Wickman.....	£1,528	J. Waycott	£1,285
J. King & Son	1,450	A. G. Lovell.....	1,277
G. Elsey & Sons ..	1,375	S. Jeal	1,268

SELLY OAK.—For the erection of public baths including chimney shaft and storage tank, at Tiverton-road, Selly Oak, for the King's Norton and Northfield Urban District Council. Mr. E. Harding Payne, architect, 11, John-street, Bedford-row, W.C. Quantities by Mr. Geo. Kenwrick, F.S.I., 83, Colmore-row, Birmingham:—

W. J. Morris	£10,038	W. & J. Webb....	£9,600
J. Barnsley & Son	9,888	W. Bishop.....	9,477
T. Loud & Sons..	9,875	B. Whitehouse	9,378
J. A. Turton:....	9,858	W. H. Gibbs.....	9,235
J. Dallow & Sons .	9,790	T. A. Cole & Son* .	8,990
T. Rowbotham ..	9,707		

‡ Revised estimate.

SHREWSBURY.—For concrete foundations and brick superstructure to water tanks at Electricity Works, Roushill, for the Lighting Committee. Messrs. A. B. & W. Scott Deakin, architects; Mr. C. M. Johnston, engineer:—

		Complete by.
S. Phillips	£596 12	....
Treasure & Sons	512 0	Three months.
T. Morris & Sons	463 0	Ten weeks.
E. Wilding	460 0	April 29.
Roberts	453 19	May 26.
G. Buttock	427 0	April 29.
G. Bickerston.....	422 0	April 17.
H. Price*	419 0	May 13.

[All of Shrewsbury.]

SOUTHEND-ON-SEA.—For boiler-house extension, for the Corporation. Mr. E. J. Elford, Borough Engineer, Town Hall Southend:—

F. & E. Davey....	£2,045	S. E. Moss & Co. ..	£1,777
H. Lovett, Ltd. ..	2,000	F. Miskin	1,771
H. Windsor & Co. .	2,000	A. J. Arnold.....	1,757
G. W. Smith.....	1,943	R. Elvey & Son ..	1,679
Hughes & Stirling .	1,888	W. & E. Davey,	
A. & H. Holding ..	1,805	Southend*.....	1,558

[Surveyor's protecting tender, £1,716.]

SUTTON-IN-ASHFIELD.—For making alterations and additions to the Town Hall buildings. Mr. J. P. Adlington, architect and surveyor, High-pavement, Sutton-in-Ashfield:—

J. Greenwood, Mansfield* £1,750

STRATTON (Cornwall).—For Widemouth Cliff-road diversion, for the Rural District Council. Mr. W. J. Dunbar, C.E., Liskeard:—

A. G. Osenton	£7,163 14 0	J. J. Curno ..	£2,423 11 2
S.W. Harrison & Co.	4,591 0 0	F. Cann	2,386 11 5
J. Riley	4,069 2 4	W. C. Shaddock	2,342 0 0
H. Drew	3,400 0 0	A. J. Smeeth	2,230 0 0
E. Harris....	2,678 7 2	S. & J. Pethick, Bude*	2,090 0 0
E. L. P. Duke	2,565 16 4	W. E. Bennett	2,051 9 0
J. Lucas	2,479 18 0		

TEIGNMOUTH.—For kerbing and channelling 450 yds. lineal of roadway, building bridge, and laying 800 yds. of sewers, Winterbourne Estate. Mr. S. Dobell, architect, Queen-street-chambers, Exeter:—

Steer & Pearse	£2,181 4 7	E. Harris,	
Hawkings & Best	1,852 10 0	Clyst Hydon, Exeter*	£1,674 7 0
Lamacraft & Son	1,849 0 0	Dart & Pollard	1,465 0 0
E. Mudge ..	1,782 0 0	Devon Traction & Motor Co.,	
R. Vowler ..	1,688 0 0	Ltd.	1,426 6 2

WALLINGTON (Surrey).—For the erection of two shops and houses, Wallington. Messrs. Warran & Stupart, architects, Harringay, N.:—

J. Stewart.....	£1,674	C. Hale & Co	£1,445
H. S. Pillar	1,460		

WANSTEAD.—For making-up roads, for the Wanstead Urban District Council:—

—	Wanstead Park-avenue.	Empress-avenue.	Total.
	£ s. d.	£ s. d.	£ s. d.
O. R. Anstead	710 8 6	313 15 6	1,024 4 0
T. Adams	697 0 0	319 0 0	1,016 0 0
F. Barry	567 13 8	232 0 0	799 15 8
G. Bell	668 0 0	345 0 0	1,013 0 0
W. & C. French ..	680 0 0	290 0 0	970 0 0
W. Griffiths	695 0 0	306 0 0	1,001 0 0
Grounds & Newton .	730 0 0	270 0 0	1,000 0 0
J. Jackson.....	607 0 0	267 0 0	874 0 0
W. Manders	587 10 0	250 0 0	837 10 0
A. W. Porter.....	577 12 0	245 6 0	822 18 0

WEYMOUTH.—For erecting a new head post-office, for the Commissioners of H.M. Works and Public Buildings:—

		Credit Old Materials.
F. Hoare & Sons	£10,440 0 0	£40 0
F. Merrick & Son	8,975 0 0	—
J. A. Baith & Co.	8,838 0 0	—
Wakeham Bros.....	8,450 0 0	—
Ham Hill & Doulting Stone Co., Ltd.	8,365 1 0	73 10
S. Roberts	8,345 0 0	—
T. Conway	8,336 0 0	51 0
H. Pittard & Son	8,321 0 0	41 0
S. Bastow & Co., Ltd.	7,998 0 0	—
H. M. Patrick.....	7,929 0 0	—
Jesty & Baker	7,926 18 9	75 0
Pethick Bros.....	7,799 0 0	—
C. Wall, Ltd.	7,330 0 0	—
A. J. Colborne*	7,170 14 0	—

WOODFORD (Essex).—For laying 439 lin. ft. of pipe sewer, Woodford Green, for the Urban District Council. Mr. W. Farrington, Surveyor, Council Offices, Woodford Green:—

Parsons & Parsons.....	£109 9 8	W. & C. French, Buckhurst Hill*	£86 4 0
S. Kind	109 0 0		
Hewett & Sons	97 0 10		

WOODFORD (Essex).—For drainage, kerbing, and asphalte paving, Woodford Green, for the Urban District Council. Mr. W. Farrington, Surveyor, Council Offices, Woodford Green:—

Hewett & Sons	£375 7 8	W. & C. French, Buckhurst Hill*	£352 19 10
French Asphalte Co.....	372 6 6		
Parsons & Parsons....	358 3 7	Limmer Asphalte Paving Co.‡ ..	211 17 6

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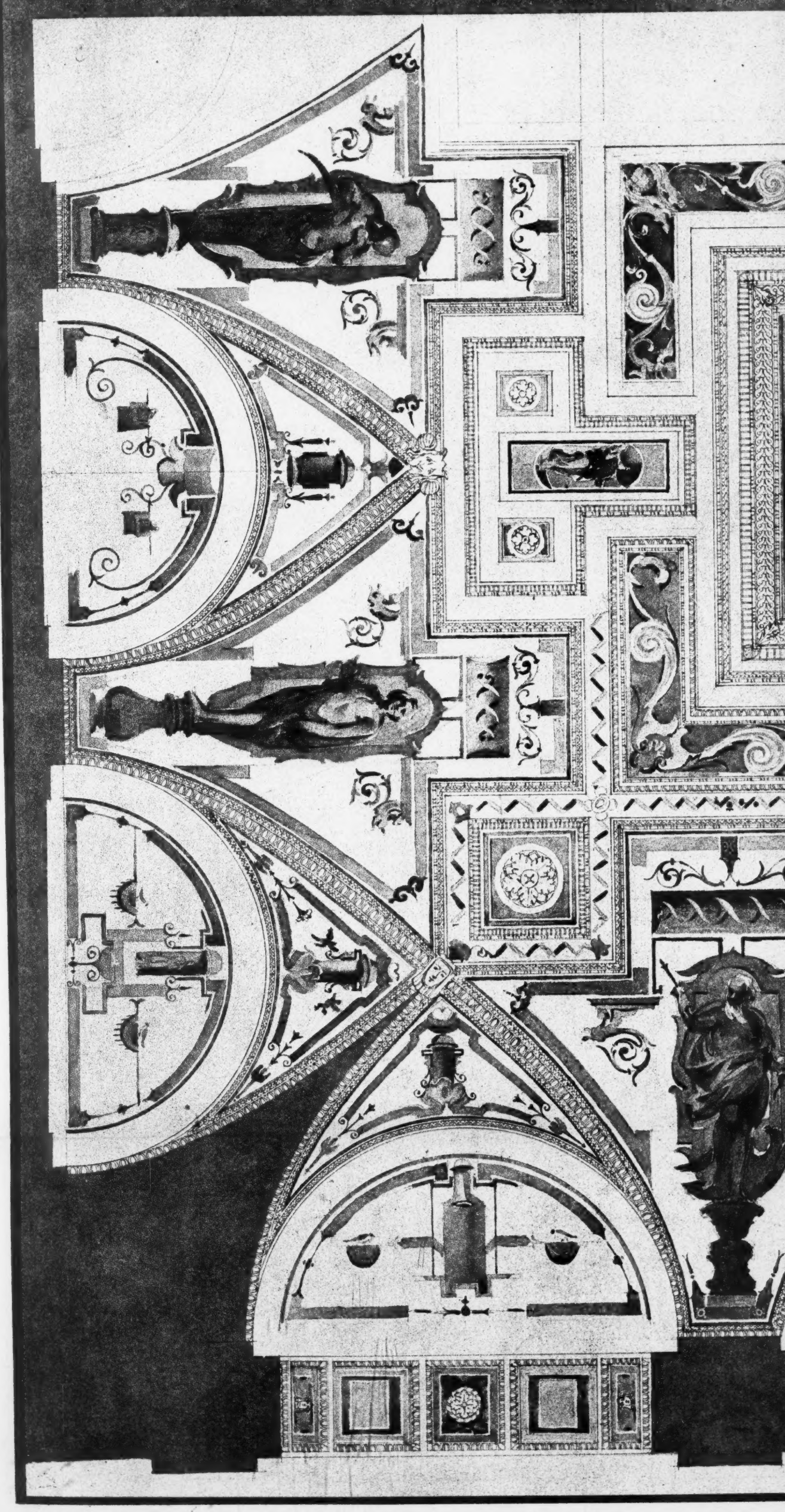

Owen Jones Studentship, R.I.B.A. 1905.

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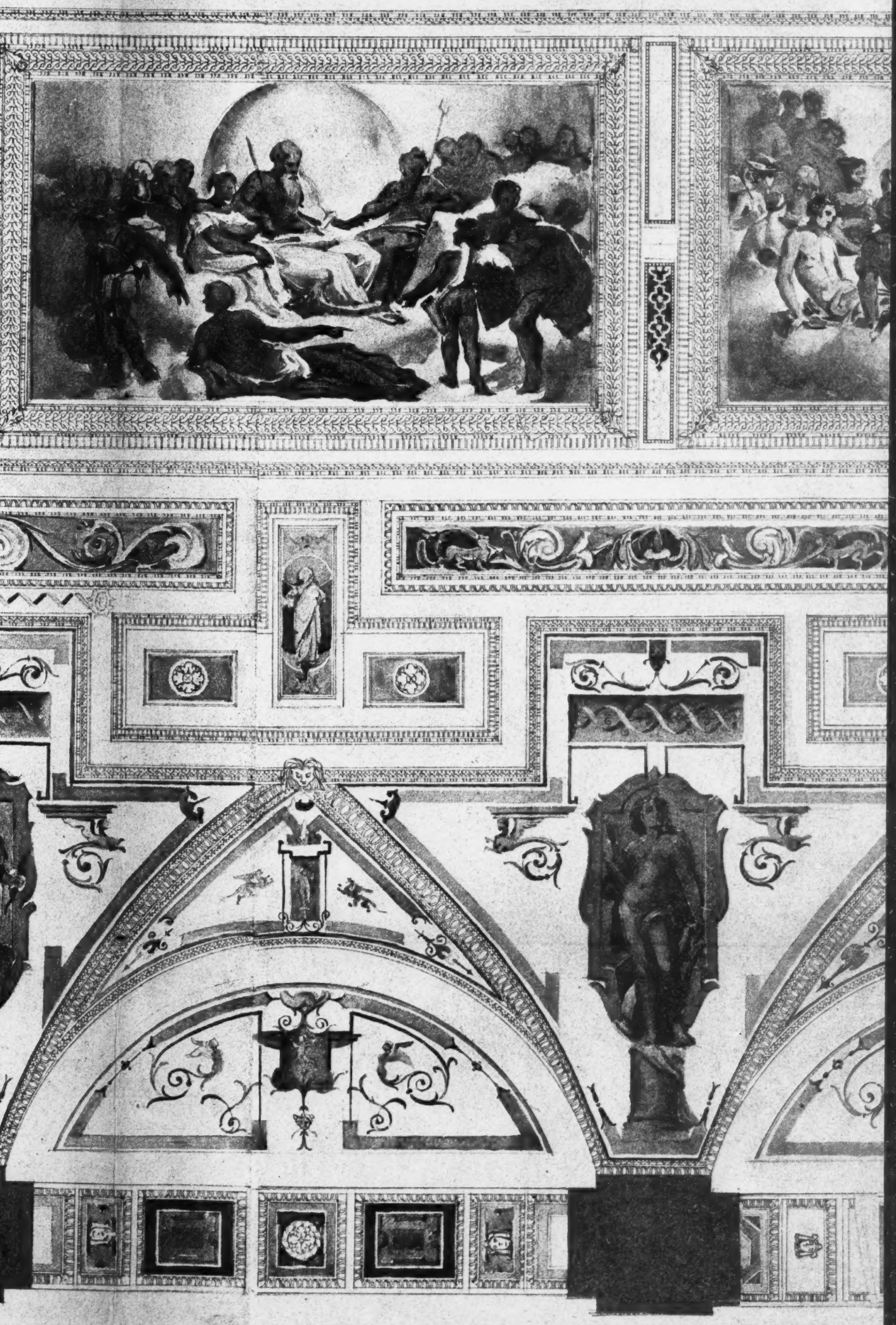

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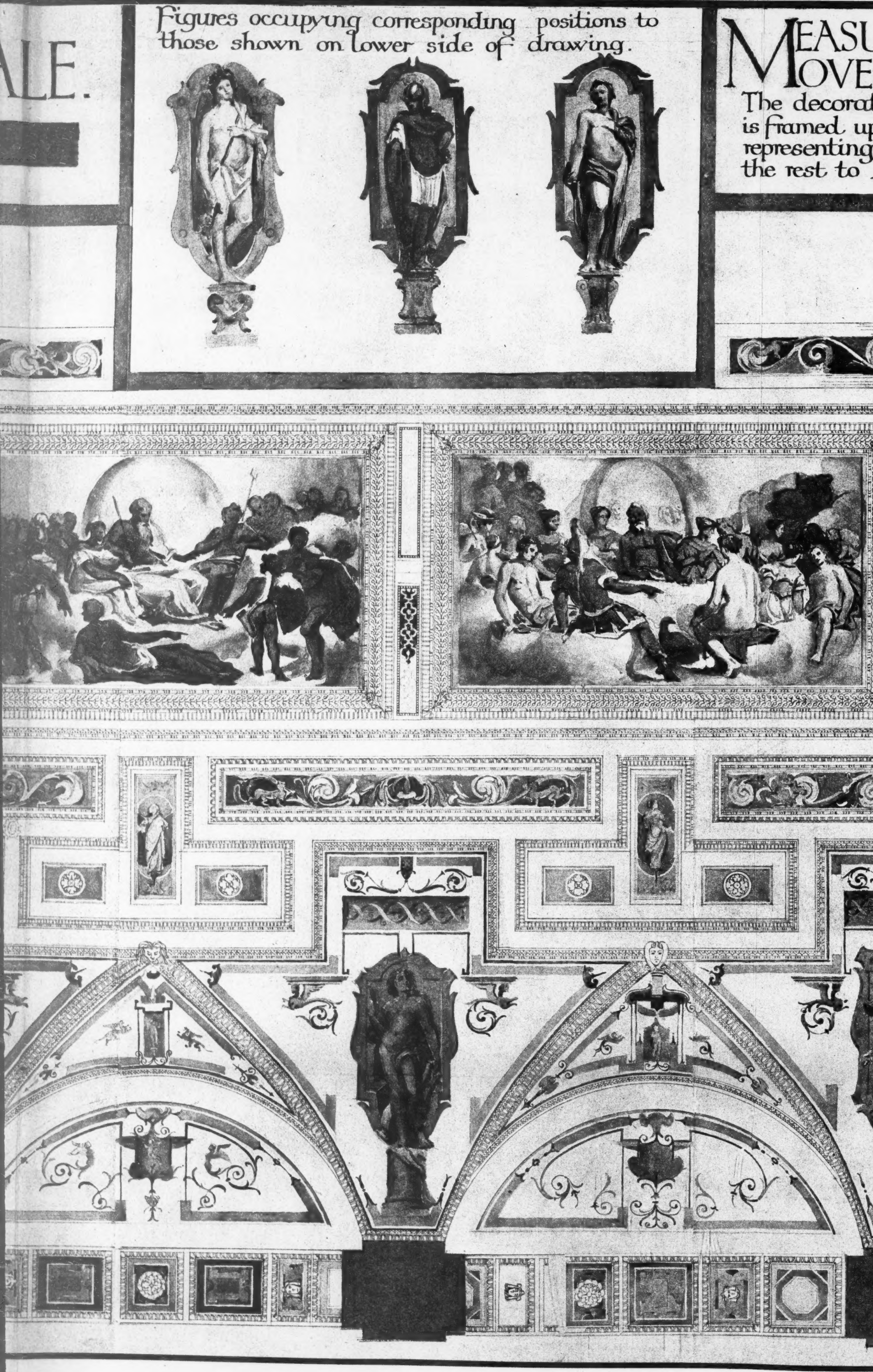

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MEASURED DRAWING OF CEILING OVER ENTRANCE COURT [redacted]

e decoration is painted in tempera on a plaster ground, which framed up with enriched plaster mouldings. The panel presenting The feast of the gods is attributed to Luca Cambiaso, e rest to Bergamasco. [redacted]

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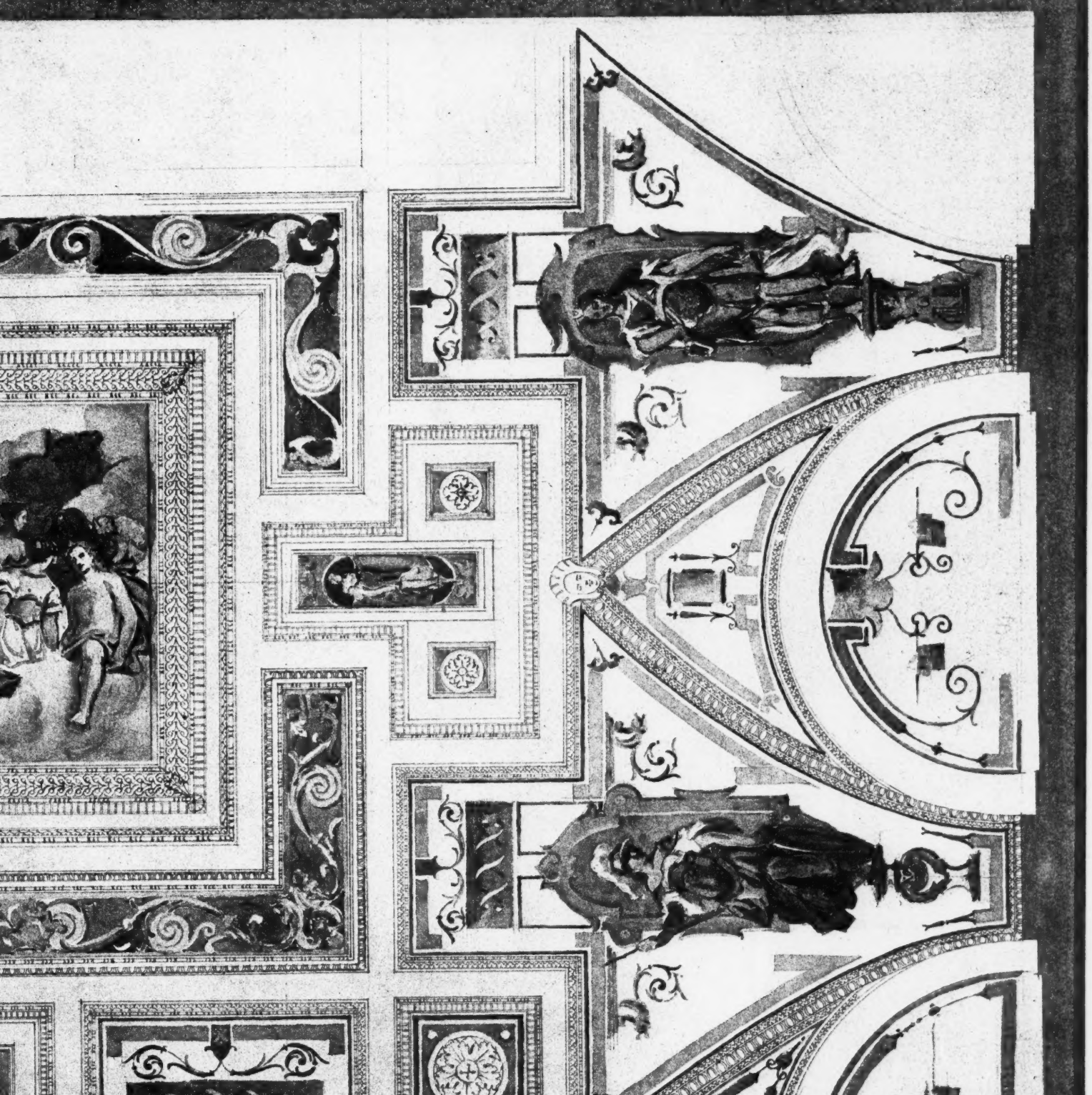

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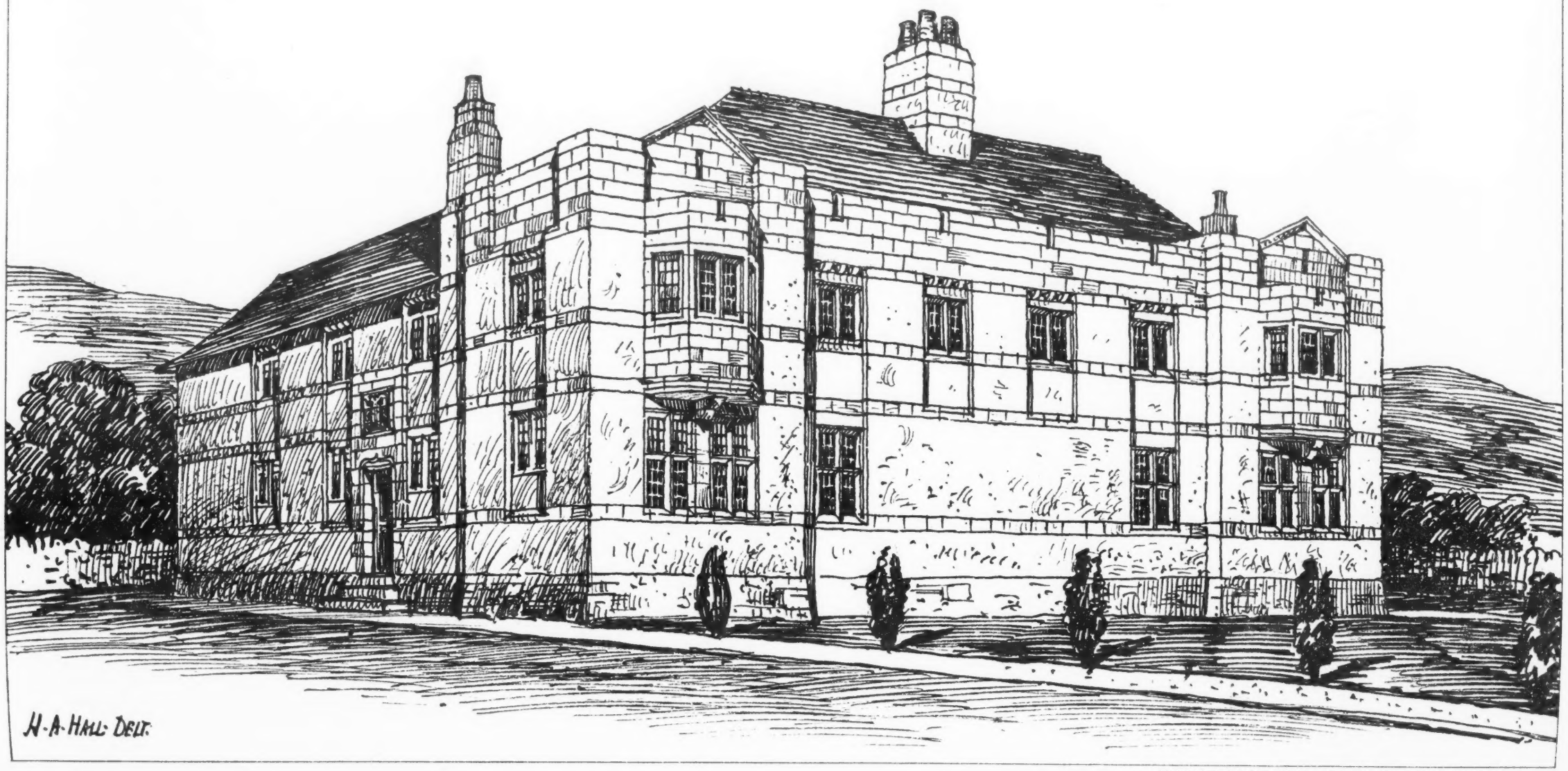

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HOUSE AT RUGBY

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HOUSE AT RUGBY
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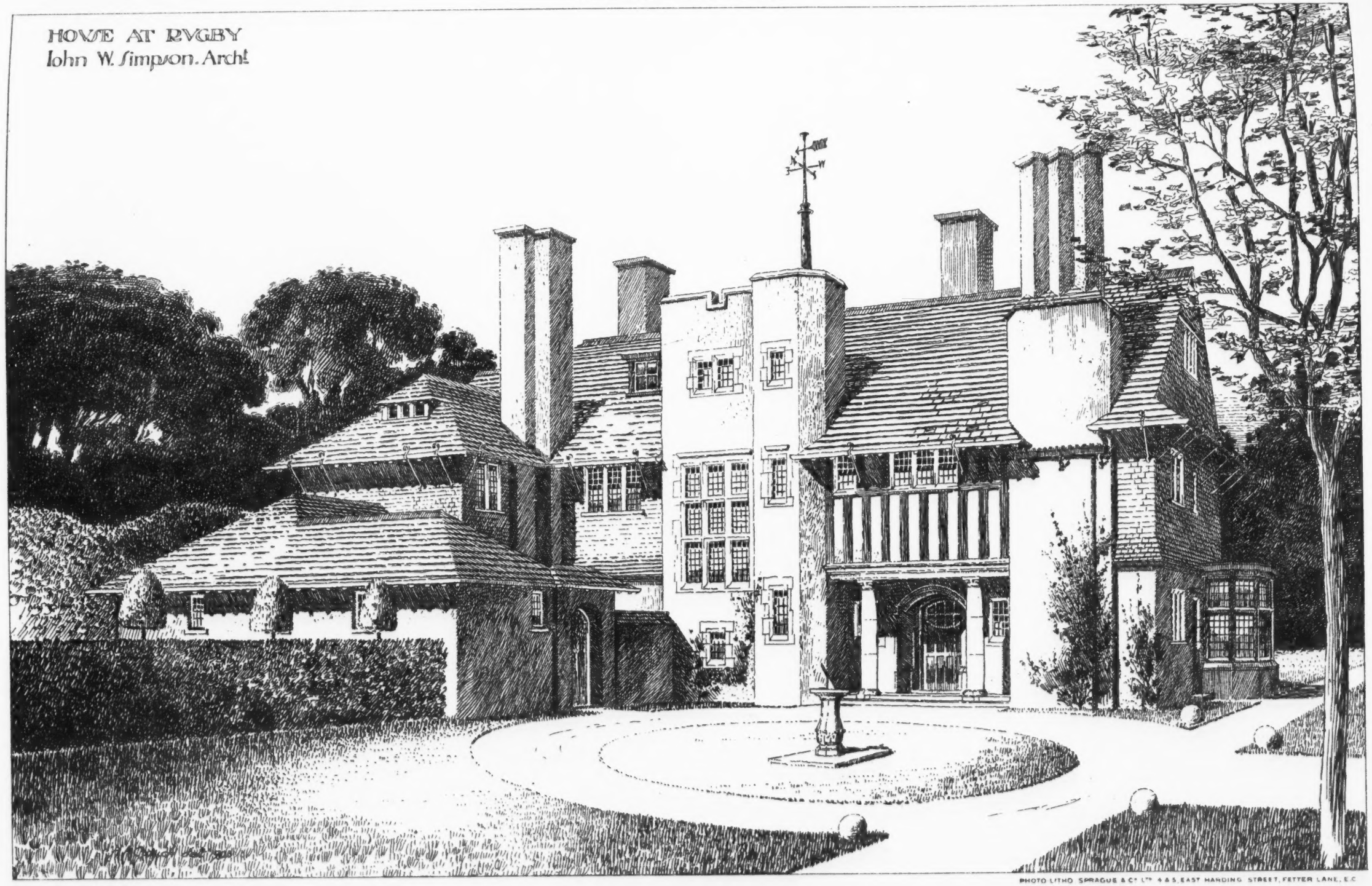

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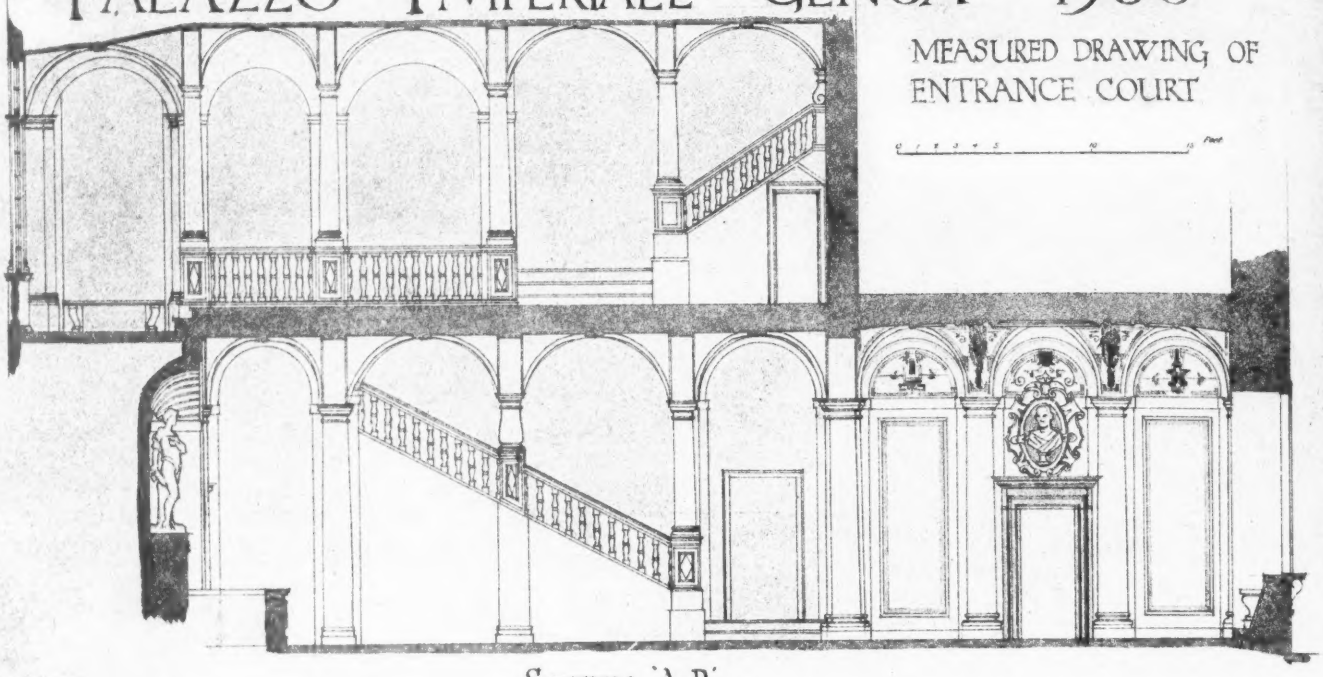

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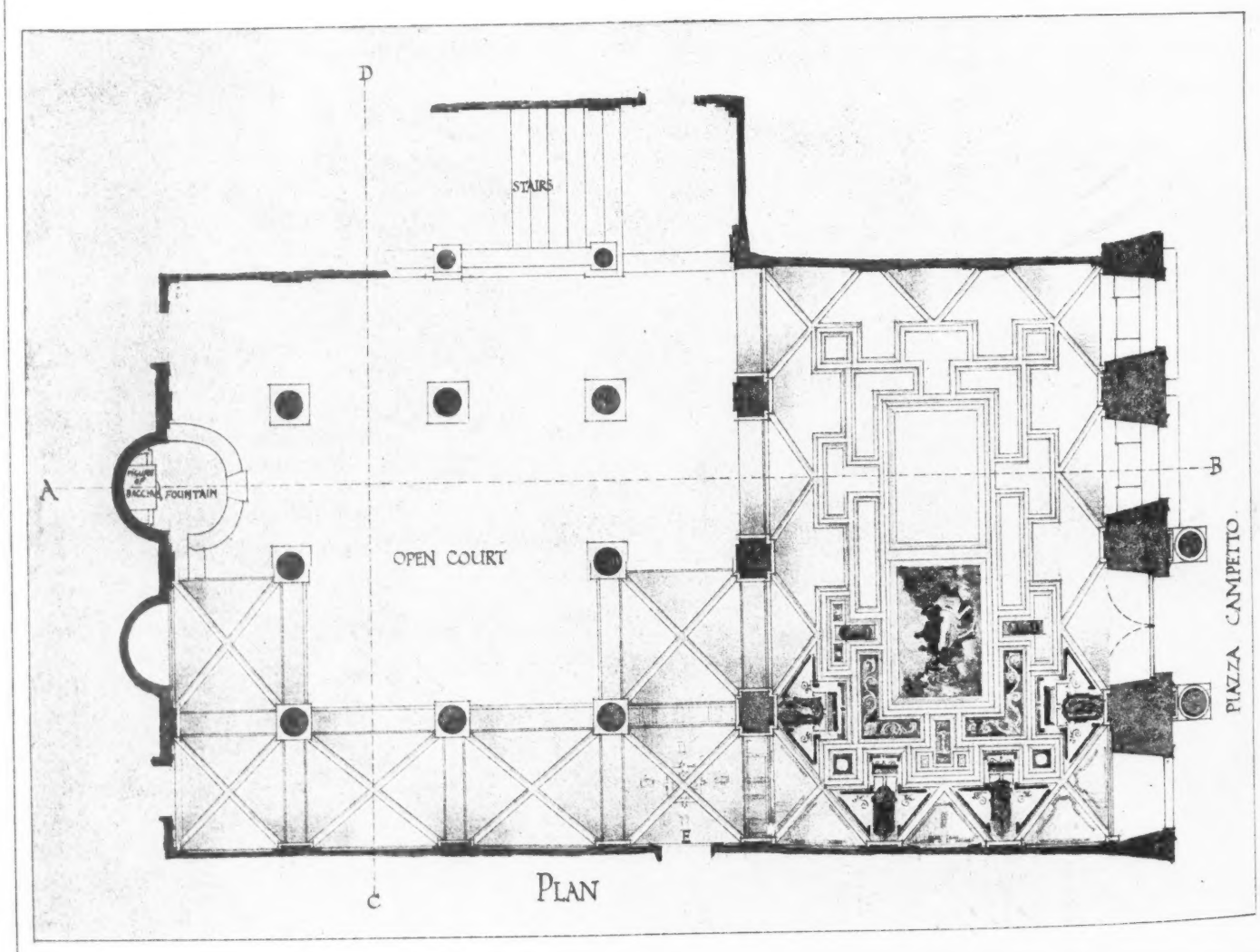

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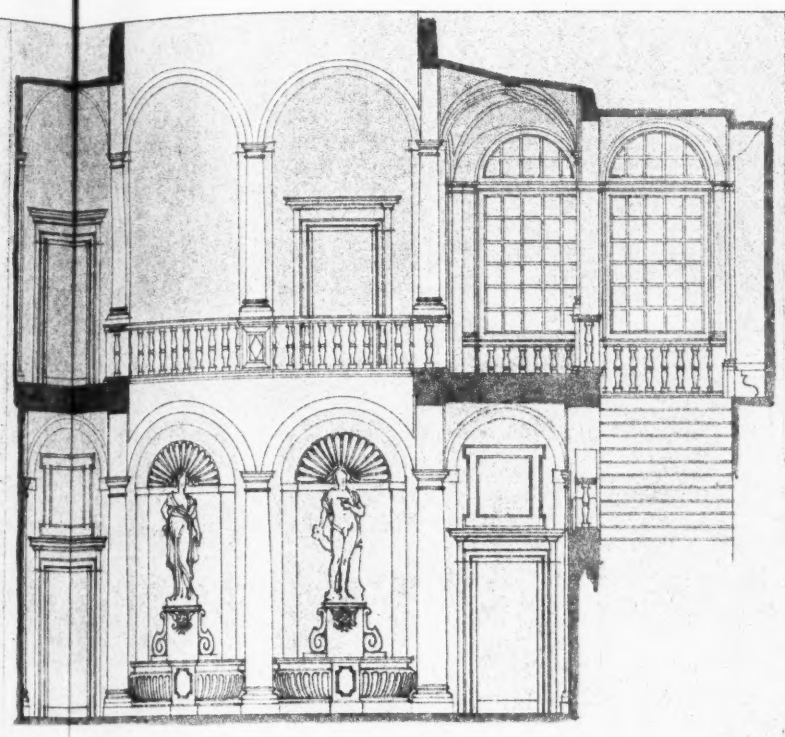

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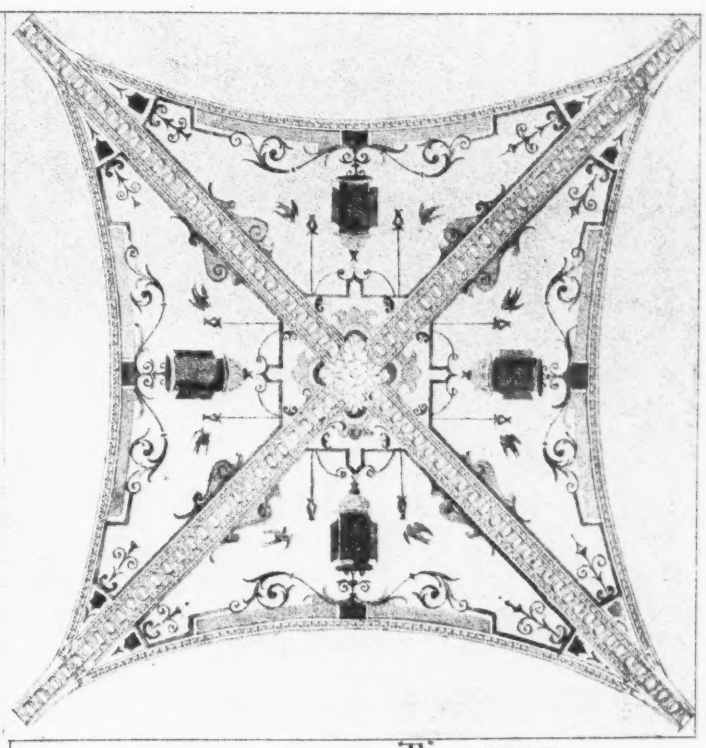
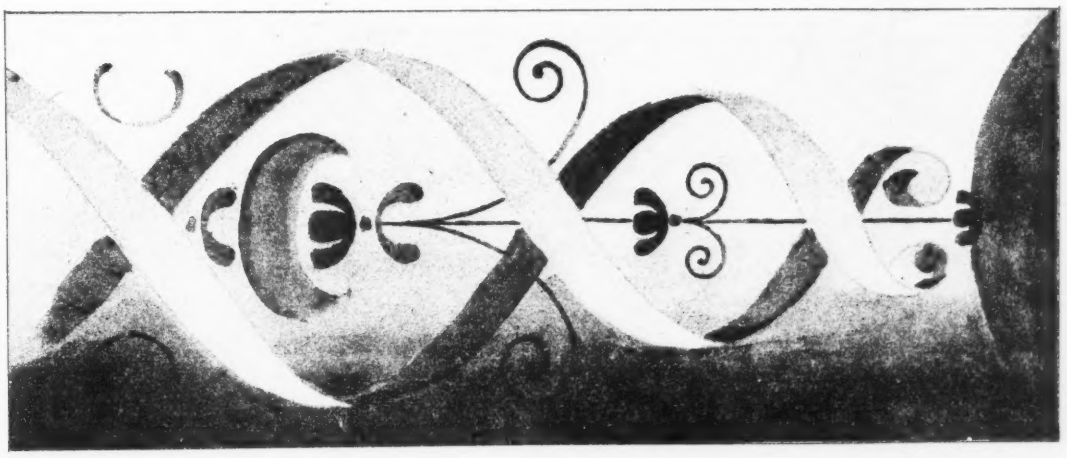


DRAWING OF VAULT 'E' ON PLAN



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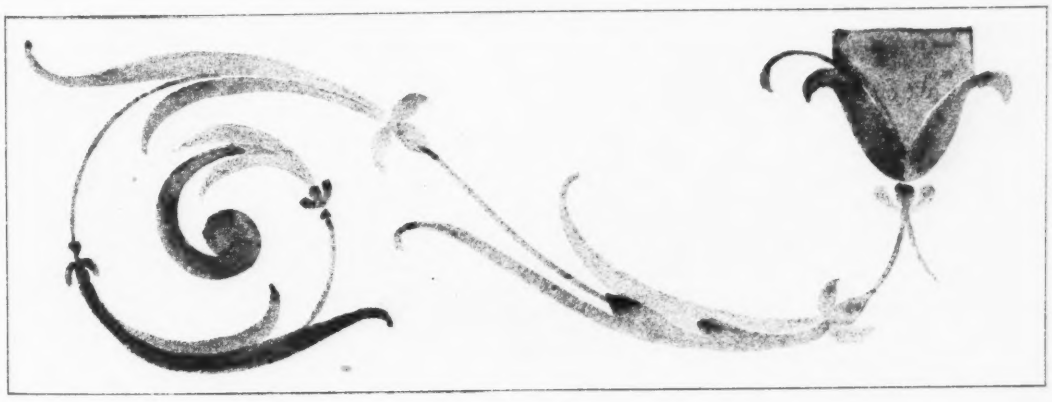

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